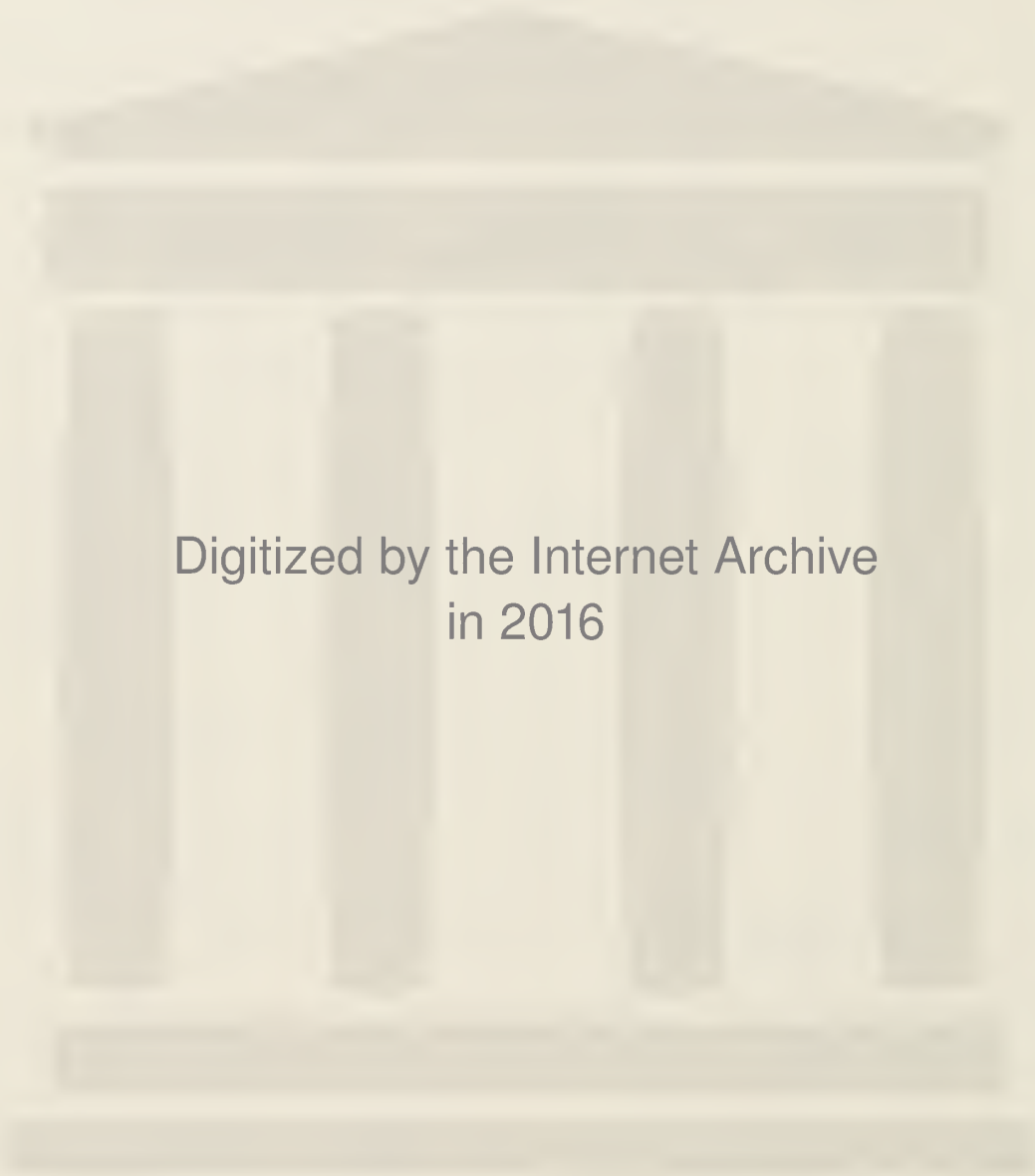


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The Journal of The SOUTH CAROLINA *Medical Association*

MEASLES VACCINE

TRANSIENT HEMIPLEGIAS

HEART CATHETERIZATION

SELECTIVE MEDIASTINOSCOPY

COMMUNITY HEALTH PLANNING

UME 66 JANUARY, 1970 NUMBER 1



The girth control pill



Tepanil® Ten-tab®
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(diethylpropion hydrochloride)

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When girth gets out of control, TEPANIL can provide sound support for the weight control program you recommend. TEPANIL reduces the appetite—patients enjoy food but eat less. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation.

Controindicotions: Concurrently with MAO inhibitors, in patients hypersensitive to this drug; in emotionally unstable patients susceptible to drug abuse.

Worning: Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovascular disease. Do not use during first trimester of pregnancy unless potential benefits outweigh potential risks.

Adverse Reoctions: Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence. As is characteristic of sympathomimetic agents, it may occasionally cause CNS effects such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptic an increase in convulsive episodes has been reported. Sympathomimetic cardiovascular effects reported include ones such as tachycardia, precordial pain arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others. Allergic phenomena reported include such conditions as rash urticaria, ecchymosis, and erythema. Gastrointestinal effects such as diarrhea constipation, nausea, vomiting, and abdominal discomfort have been reported. Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia. A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

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T-006A / 1/70 / U S PATENT NO 3,001,910

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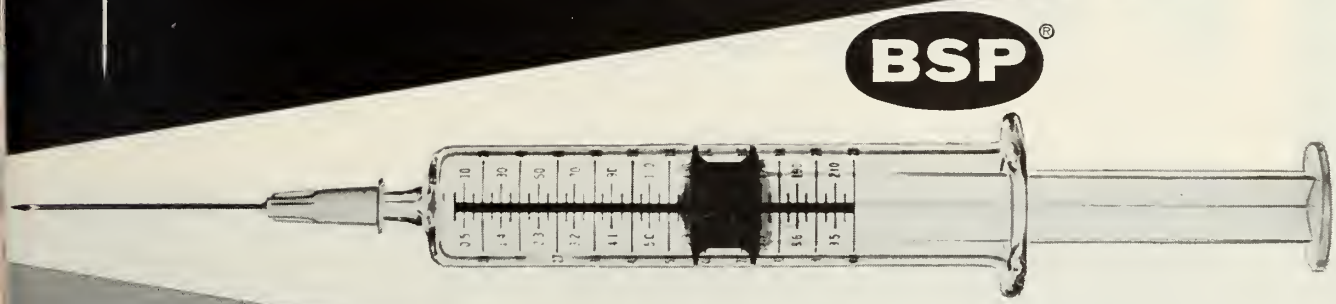
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JANUARY, 1970—VOL. 66 NO. 1

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

Contributions of Original Articles

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

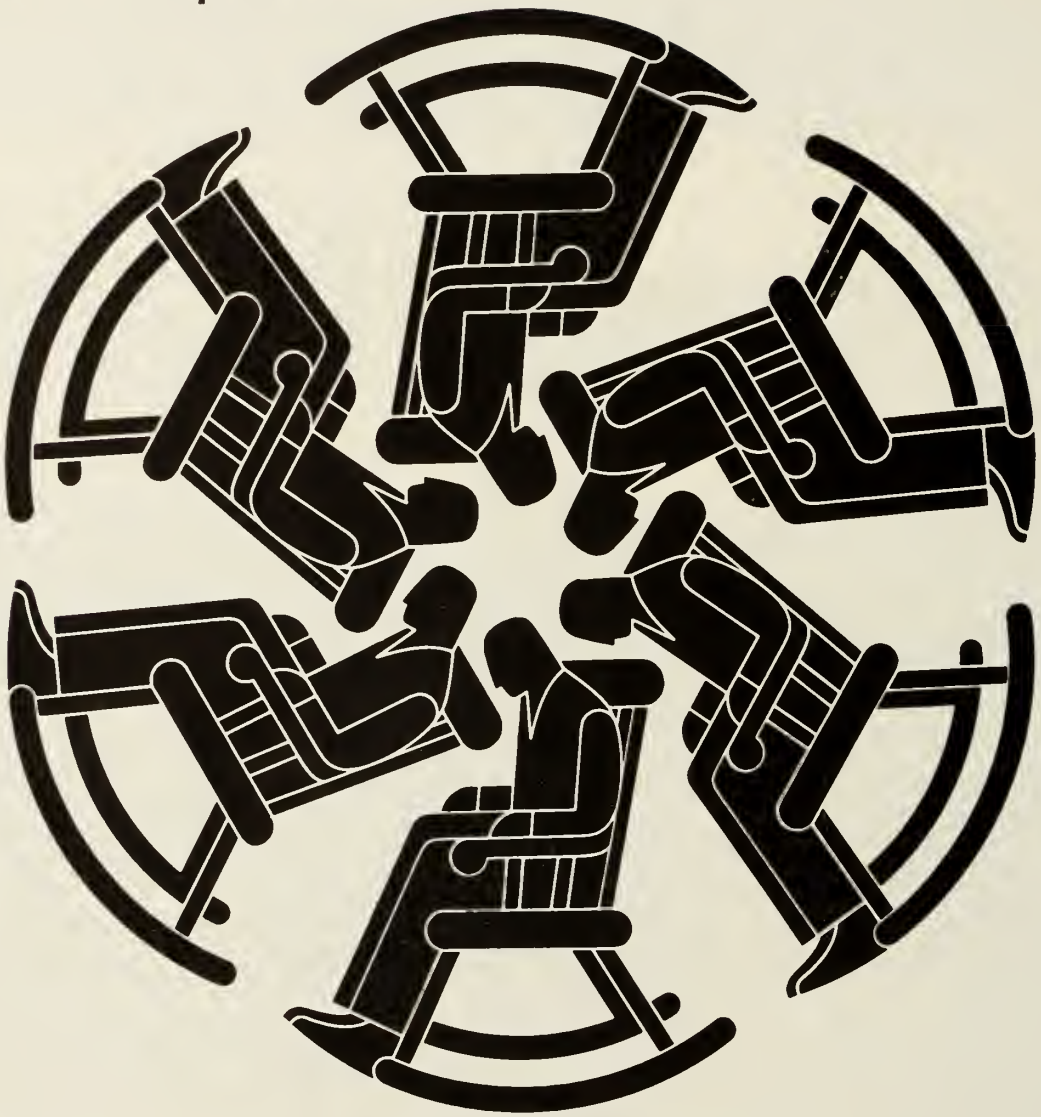
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Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

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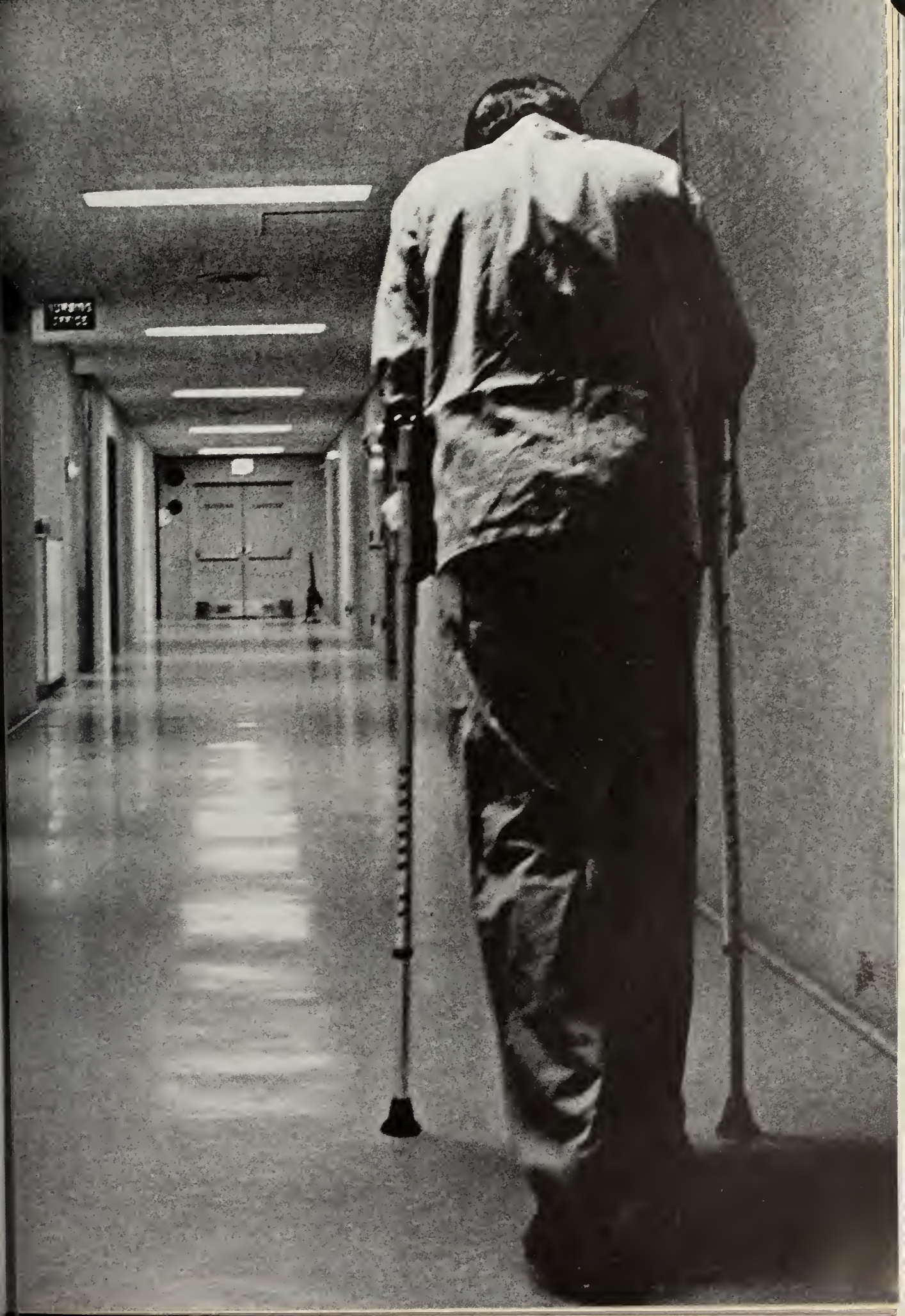
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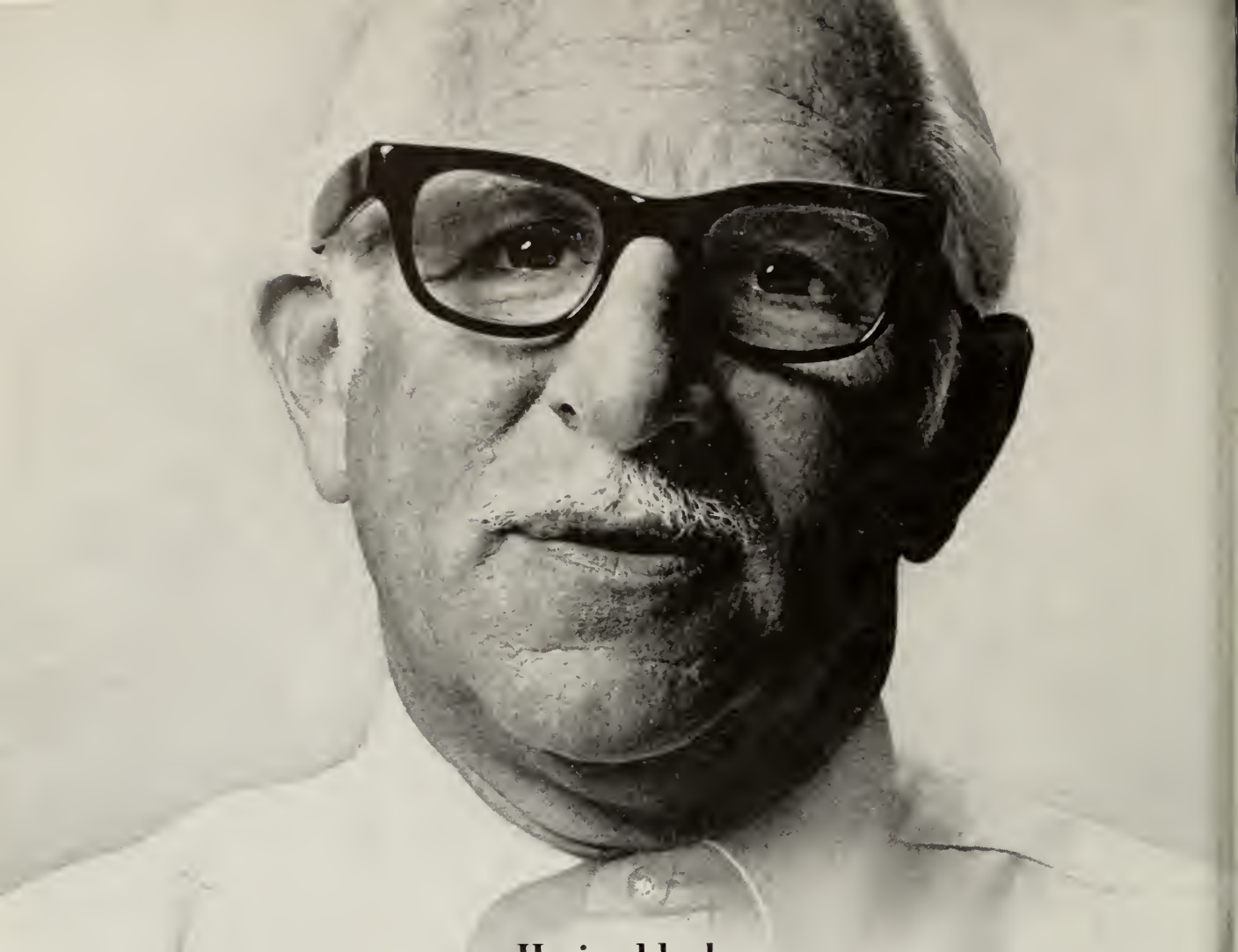
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Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

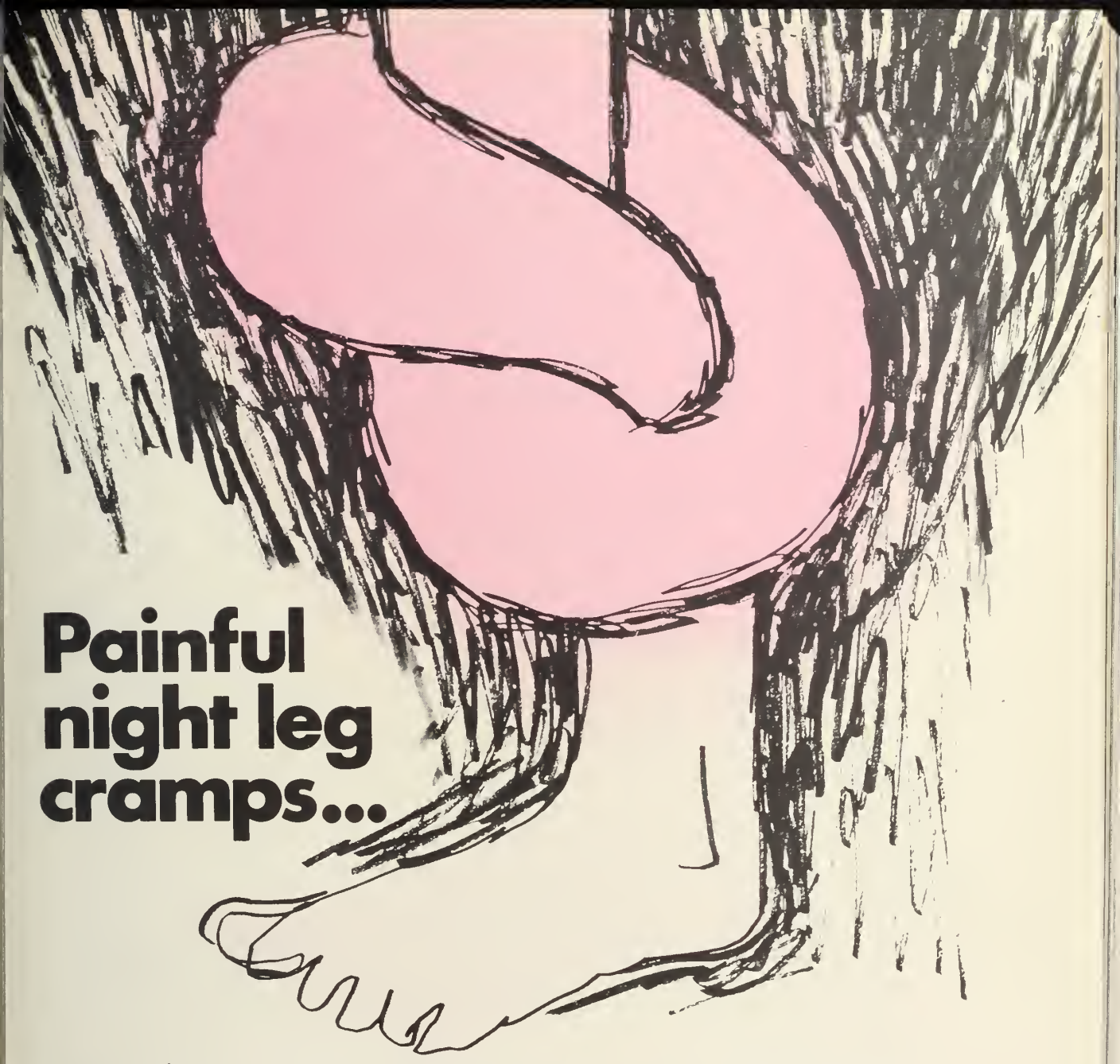
Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriat measures should be taken. In infants, increased intracranial pressur with bulging fontanels has been observed. All signs and symptoms hav disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diar rhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopap ular and erythematous rashes; a rare case of exfoliative dermatitis ha been reported. Photosensitivity; onycholysis and discoloration of th nails (rare). Kidney—rise in BUN, apparently dose related. Transien increase in urinary output, sometimes accompanied by thirst (rare Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxi Teeth—dental staining (yellow-brown) in children of mothers given thi drug during the latter half of pregnancy, and in children given the dru during the neonatal period, infancy and early childhood. Enamel hypo plasia has been seen in a few children. If adverse reaction or idiosyn crasy occurs, discontinue medication and institute appropriate therap Demethylchlortetracycline may form a stable calcium complex in an bone-forming tissue with no serious harmful effects reported thus fa in humans.

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unwelcome bedfellow for any patient– including those with arthritis, diabetes or PVD

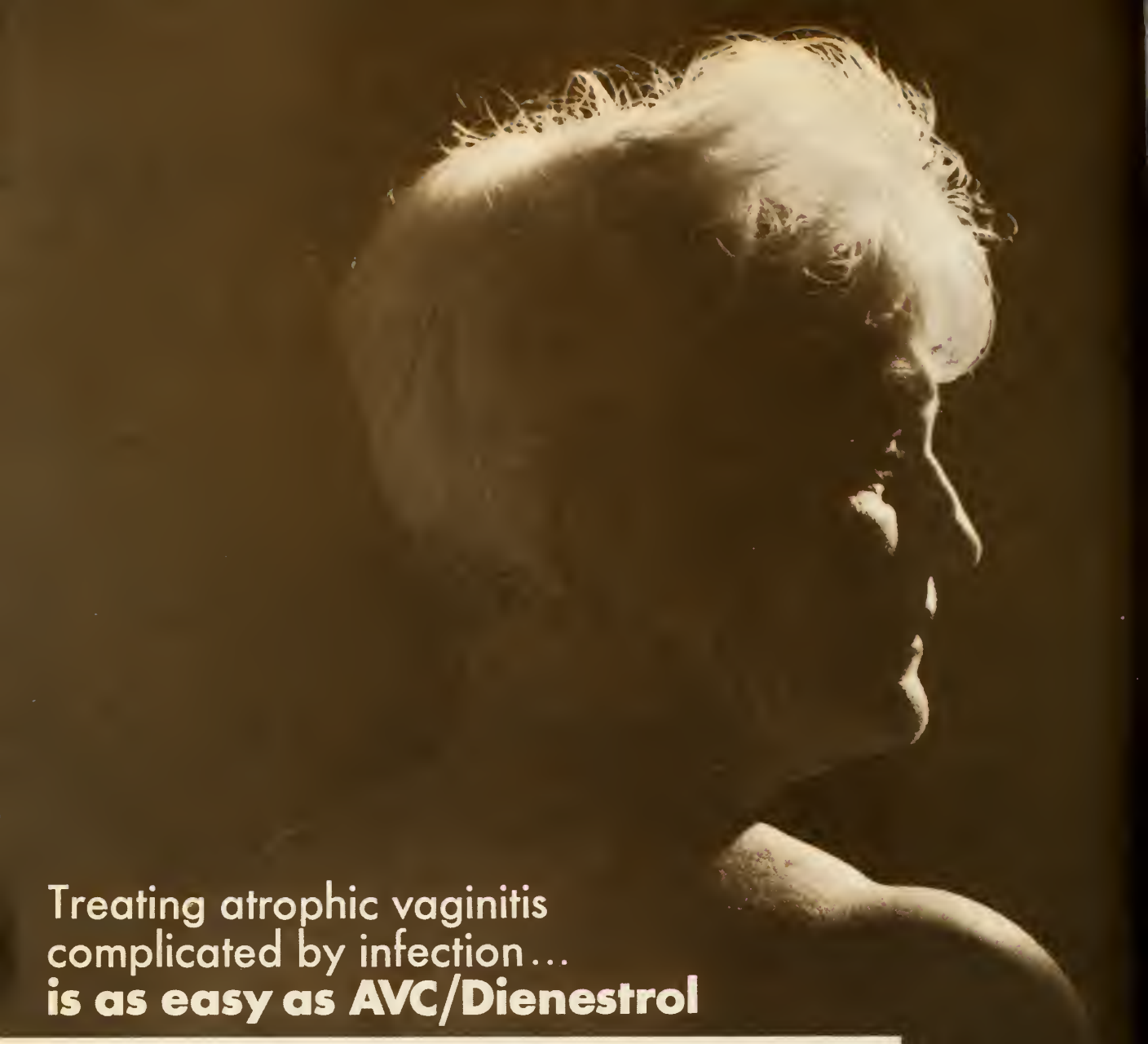
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Dosage: One applicatorful or one suppository intravaginally once or twice daily.

Supplied: 'AVC/Dienestrol Cream'—Four ounce tube *with* applicator. 'AVC' and 'AVC/Dienestrol Suppositories'—Box of 12 *with* applicator.

References: (1) Solerno, L. J.; Ortiz, G., and Turkel, V.: Voginitis: A Diagnostic and Therapeutic Approach, Scientific Exhibit, presented at the 115th Annual A.M.A. Convention, Chicago, Illinois, June 1966. (2) Nugent, F. B., and Myers, J. E.: Pennsylvania Med. 69:44, 1966.

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AVC/Dienestrol

Cream (dienestrol .01%, sulfanilamide 15.0%, aminacrine hydrochloride 0.2%, allantoin 2.0%)
Suppositories (dienestrol 0.70 mg., sulfanilamide 1.05 Gm., aminacrine hydrochloride 0.014 Gm., allantoin 0.14 Gm.)

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A once-popular treatment for back pains was to have the seventh son of a seventh son stand or walk on the patient's back.





The pain of earache was allegedly relieved by holding a hot roasted onion to the ear.

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Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Persistent or severe dyspepsia may indicate peptic ulcer; perform upper gastrointestinal x-ray diagnostic tests if drug is continued. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with caution in the first trimester of pregnancy and in patients with thyroid disease.

Precautions: Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. Patients should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention), skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make complete blood counts at weekly intervals during early therapy and at 2-week intervals thereafter. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The more common are nausea and edema. Swelling of the ankles or face may minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Drug rash occasionally occurs. If it does, promptly discontinue the drug. Agranulocytosis, exfoliative derma-

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prompt anti-inflammatory effectiveness
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Dosage in Rheumatoid Arthritis: Initial: 3 to 6 capsules daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules daily; response is often achieved with 1 or 2 capsules daily. In selecting the appropriate dosage in any specific case, consideration should be given to the patient's weight, general health, age and any other factors influencing drug response. (B)46-070-C

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Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage. Upon adverse reaction, stop medication and treat appropriately.

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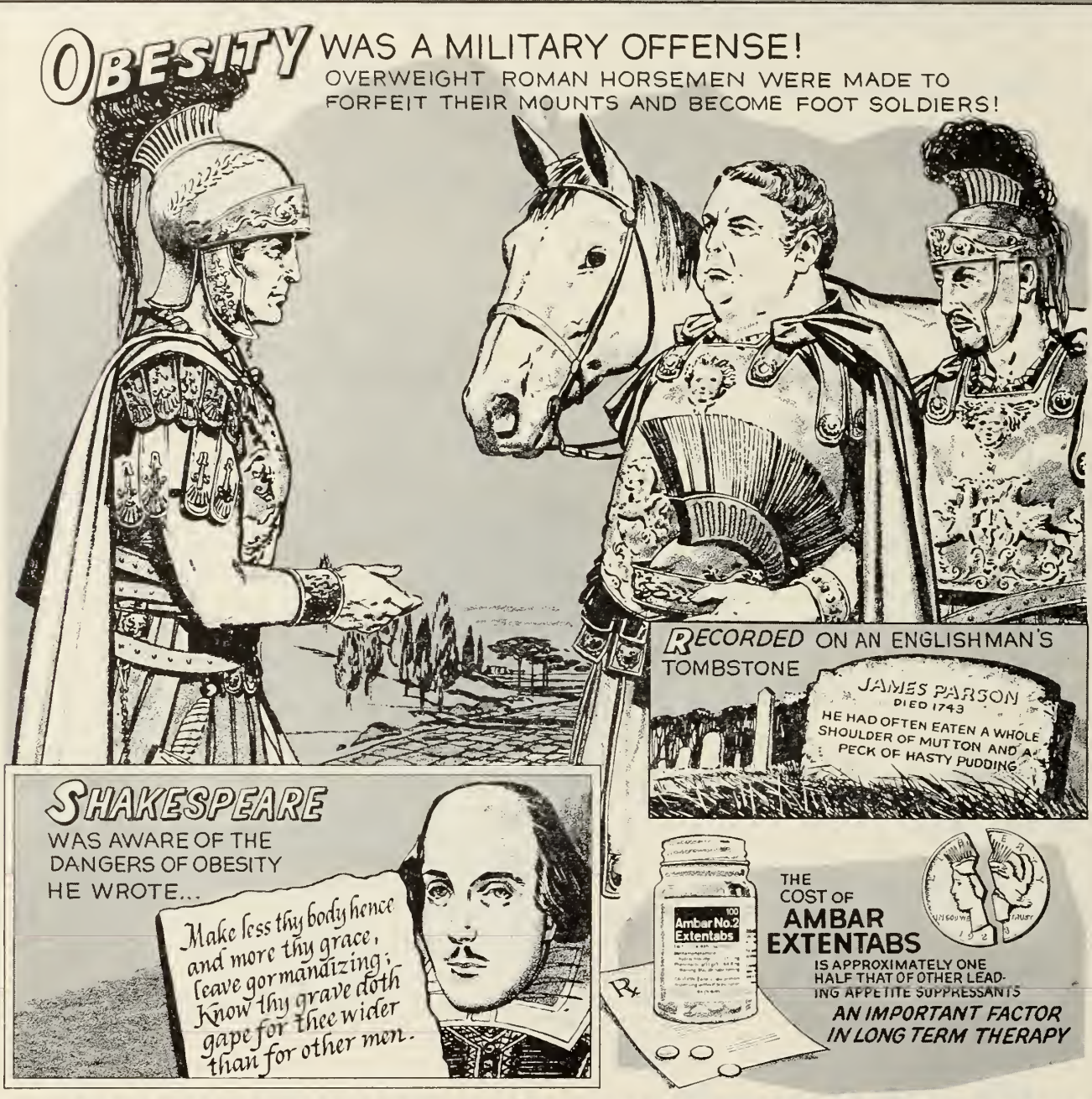
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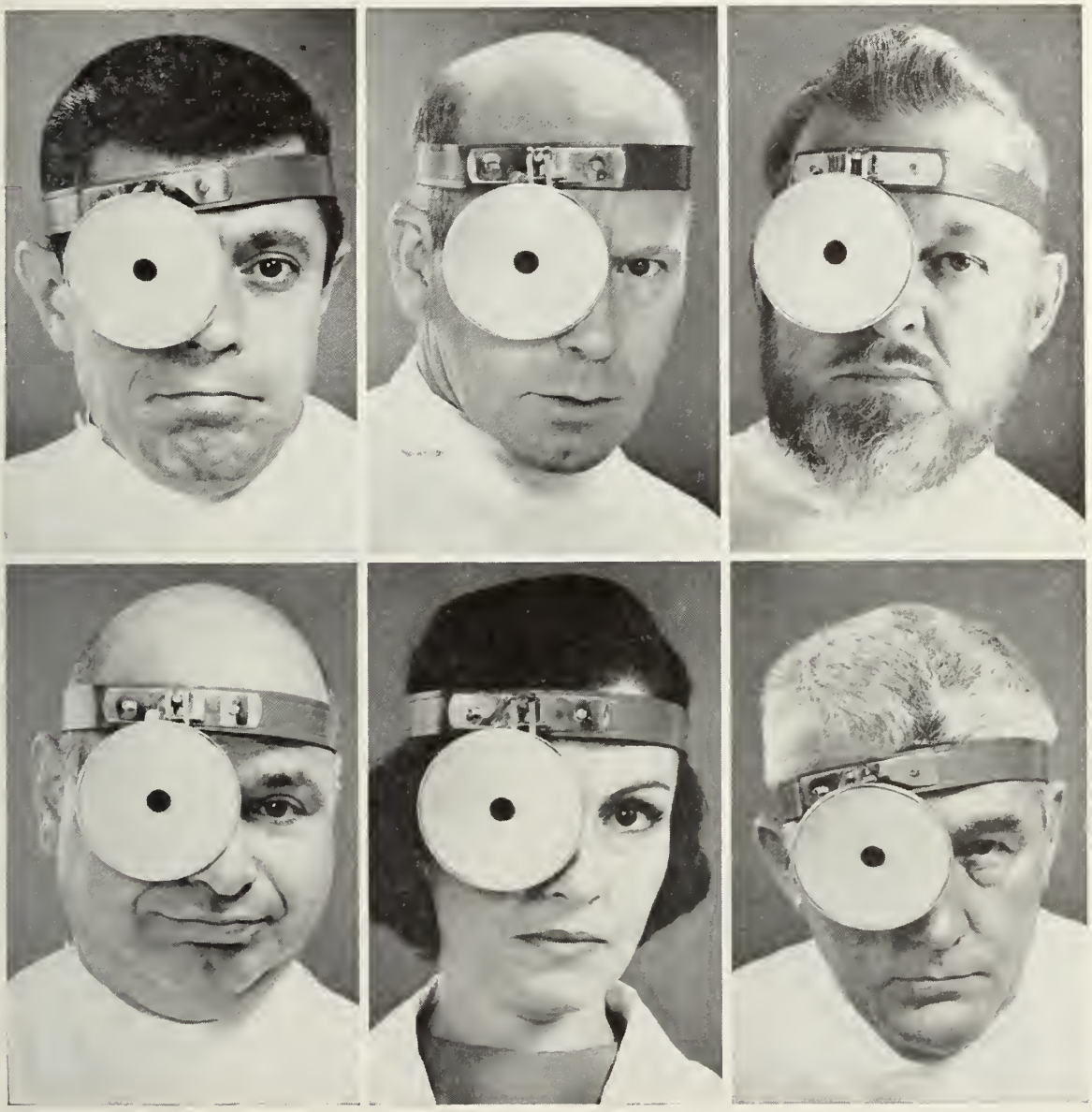
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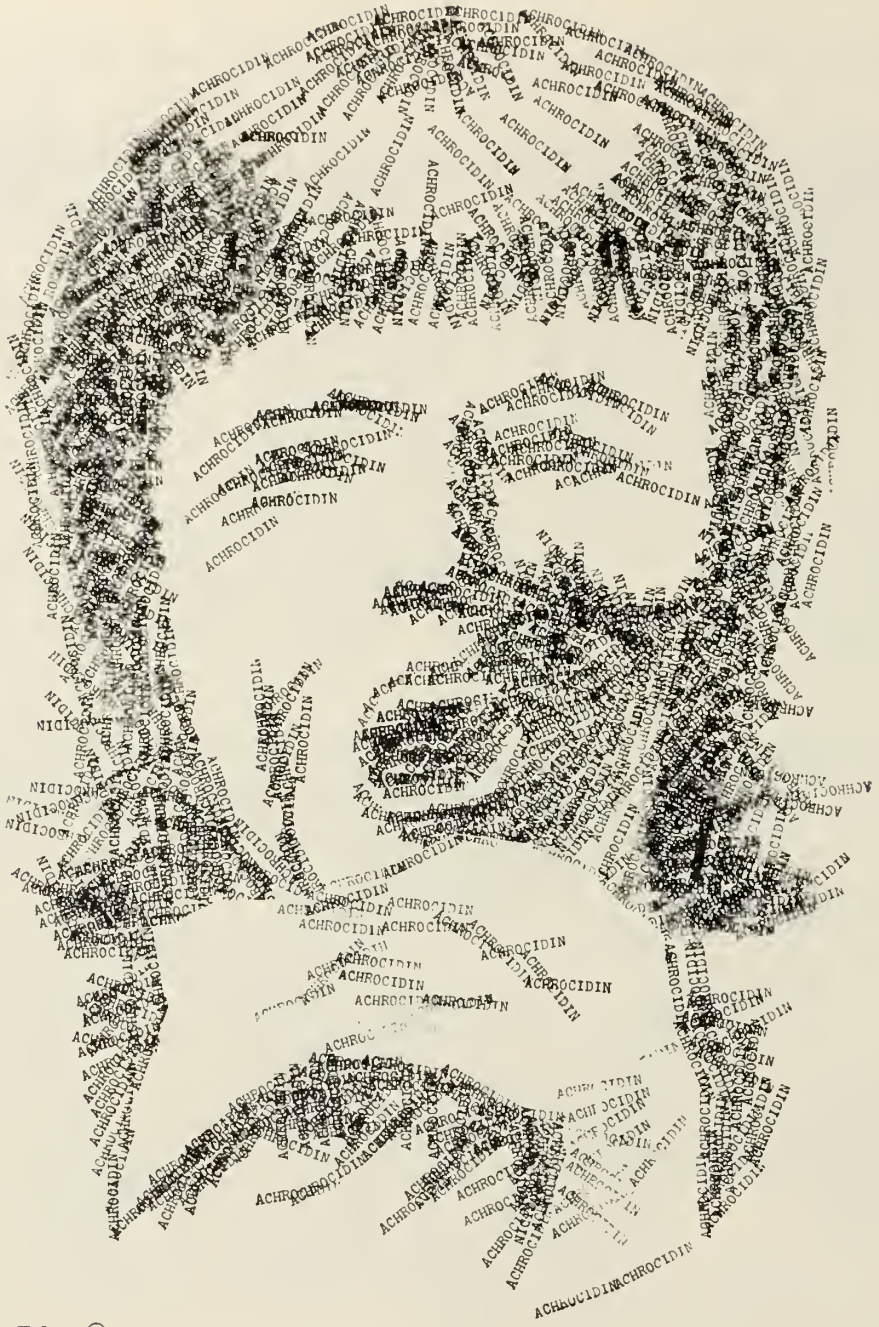
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Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

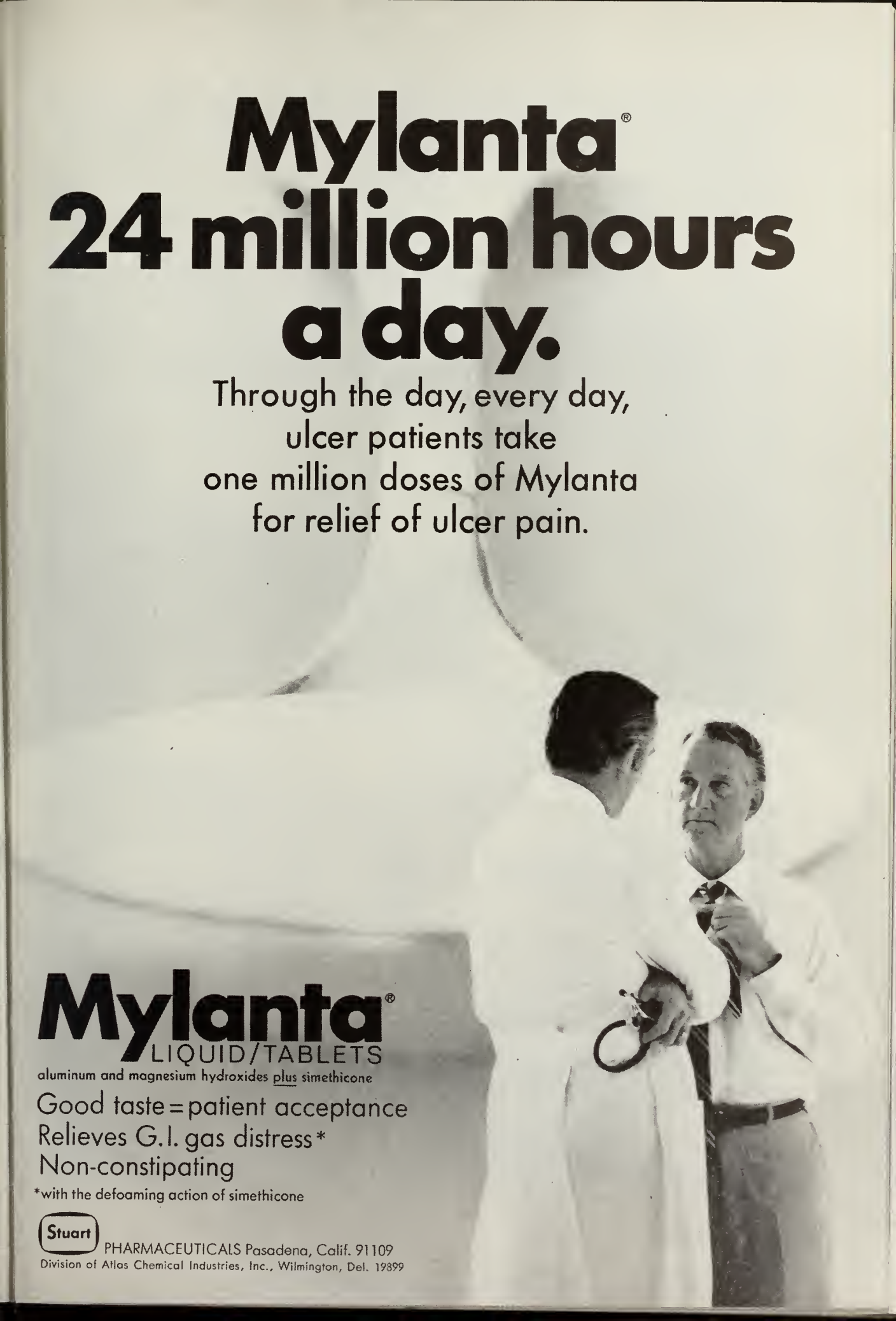
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VOLUME 66 JANUARY, 1970 NUMBER 1

THE TRANSIENT HEMIPLEGIAS

B. M. MONTGOMERY, M.D., F.A.C.P.
Newberry, South Carolina

I am honored to be allowed to deliver the first Medical College of South Carolina Alumni Association lecture. I plan to discuss the transient hemiplegias. By doing this, I hope to be able to point out the value of a prompt and thoughtful look at the stroke patient, no matter what the apparent severity of the initial deficit. I chose hemiplegia because it is an ominous cerebral event. What is true of it in terms of possible reversibility is even more true of lesser paralyses.

In this presentation, transient hemiplegia is defined as a sharply lateralized paralysis, which appears abruptly and disappears completely within a period of 72 hours or less.

The causes of transient hemiplegia are listed in Table 1. Cerebral arteriosclerosis is by far the most common. The incidence of the others is much less certain. The rough groupings in the Table as to relative frequency are based on observations in general hospitals and on a review of the scattered reports in the literature from 1914 through 1967. Unfortunately, no broadly based pool of well-studied cases is yet available for analysis.

Clinical Professor of Medicine, Medical College of Georgia, Augusta, Georgia.

Table 1
Causes of Tranisent Hemiplegia

Common
Cerebral arteriosclerosis
Cerebral embolism
Hysteria
Occasional
Migraine
Hypoglycemia
Hypertension
Epilepsy
Cerebral angiography
Intracranial aneurysms
Rare
Multiple sclerosis
Allergy
Brain tumor
Neurosyphilis

Before proceeding to a discussion of specific syndromes, three points should be made.

1. There is no way to separate transitory from permanent deficits at a glance. Neither the severity of the hemiplegia, the state of consciousness, nor the presence of headache or convulsions is distinctive.

2. In large measure, what can be done to avert permanent damage must be done in the very first hours, and often most successfully by the first physician seeing the patient.

3. The content of the following descriptions of the various syndromes is consciously selective, and the focus will be on recognition and management at the community hospital level.

Transient Hemiplegia in Cerebral Arteriosclerosis

The most important form of cerebral arteriosclerosis, atherosclerosis, in itself is seldom a cause of cerebral symptoms. Superimposed thrombosis is necessary to close off a vessel, to narrow it significantly, or to serve as a source of emboli. Furthermore, in cerebral vascular disease in general, two distinctions are basic.

The first is whether the posterior or anterior arterial system is involved.

The second is whether large or small vessel disease is present.

With regard to transient hemiplegia in particular, usually large vessel disease, or atherothrombosis, of the anterior system is present. When hemiplegia is due to disease of the posterior, or vertebral-basilar system, it usually spares the face, alternates from side to side, lasts only a few minutes, and is accompanied by posterior fossa symptoms. When, as is more commonly the case, the anterior, or internal carotid system is involved, homolateral blindness and contralateral hemiplegia usually occur and may last for hours.

Transient hemiplegia in this syndrome may come about in one of three ways.

1. A part of the brain supplied by a narrowed artery is disproportionately affected by a fall in systemic blood pressure.

2. A fibrin-platelet embolus may break off from an ulcerated atherosclerotic plaque covered by loose thrombus.

3. Thrombosis may occur in a small penetrating vessel supplying an area near the internal capsule. The infarcted area does not involve the internal capsule, but the ischemic zone temporarily surrounding the infarct does.

Table 2 shows the disorders to be thought of in the event the first mechanism, involving the "hemodynamic crisis," is operative. Myocardial infarction with shock, hemorrhagic shock, arrhythmias, and drug effects are most often encountered as precipitating events. The need for prompt restoration of normal blood pressure, where possible, is clear.

The second mechanism, or fibrin-platelet embolism, is to be suspected when the picture is that of conspicuously repetitive attacks of small deficit and of very short duration. Anticoagulant therapy seems more rational here than in any other form of cerebral vascular disease.

Table 2

Causes of Hypotensive Hemodynamic Crisis

A. Fall in systemic blood pressure
   1. Myocardial infarction with shock
   2. Hemorrhagic shock (especially bleeding ulcer)
   3. Cardiac tachyarrhythmias
   4. Heart block
   5. Drugs, especially autonomic blocking agents and phenothiazines
   6. Postural hypotension
   7. Hypo-and-hyperthermia
   8. Congestive heart failure
   9. Pulmonary embolus

B. Local fall in blood pressure
   1. Extrinsic pressure (tumor, cervical spondylosis)
   2. Diversion of blood ("subclavian steal")
   3. Gravitational states (aviation)

Small vessel thrombosis, the third possible mechanism, is particularly suspect in the diabetic or hypercholesterolemic individual. Although many doubt the effectiveness of available therapy, few would fail to use it.

Transient Embolic Hemiplegia

Classically, embolic hemiplegia occurs during activity and reaches a maximum stage in seconds. In the young, it is usually accompanied by findings of rheumatic heart disease. In the old, it is usually associated with myocardial infarction or auricular fibrillation.

An embolus typically lodges in a vessel, induces spasm in that vessel and dilation

in collateral channels, then fragments or moves distally. While this accounts for the often transient nature of the paralysis, it also presents a dilemma. After an embolus has moved distally, restoration of the local arterial pressure head at times results in mild diapedesis of red cells into the previously ischemic area. Anticoagulants, needed to ward off repeated embolism, may increase this leakage dangerously. One rule of thumb is to withhold this type therapy until the spinal fluid is shown to be clear eight hours after onset of the attack.

Transient Hysterical Hemiplegia

The characteristics of hysterical hemiplegia will not be outlined.

Transient Migraine Hemiplegia

Migraine is a disease of two phases, the aura and the headache. Transient migraine hemiplegia follows a similar pattern. Paralysis may constitute the aura and is attributed to vasospasm. The focal nature of the vasospasm is unexplained. These attacks are usually mild and are termed minor hemiplegic migraine.

On the other hand, in major hemiplegic migraine the paralysis may be quite severe and it may accompany, follow, or even replace the headache. A frequent clue is a family history of strictly comparable attacks. The hemiplegia is thought to be due to focal cerebral edema, separating the neurons from their supply of oxygen and glucose. There have been several proposals as to the cause of this edema. One is that it is a sequel to vasoconstriction and ischemia; another is that it is due to increased amplitude of pulsation of the arteries; and a third suggests the presence of a polypeptide increasing capillary permeability locally.

Whether or not migraine hemiplegia can be prevented is unproved. At any rate, it is the rule that it disappears spontaneously from the migraine syndrome.

Transient Hypoglycemia Hemiplegia

Hypoglycemic hemiplegia is usually recognized by accompanying signs of excessive adrenergic discharge, such as pallor, sweating, and tachycardia, and by signs of diffuse cerebral dysfunction, such as coma and convulsions.

When the level of blood sugar available to the brain as a whole is reduced, the occurrence of focal symptoms requires explanation. Three are available.

1. An area of the brain supplied by a narrowed artery is disproportionately sensitive to a fall in blood sugar just as it is to a fall in blood pressure.

2. Regional vasospasm may occur, but there is no good evidence for this as yet.

3. Cells, groups of cells, or functional units of the brain may exhibit unusual vulnerability to insult, due to differences either in dextrose demand, in availability of alternative combustible substrate, or in efficiency of enzyme systems.

The first of the three, decreased local blood flow due to a narrowed artery, is more plausible. However, the young age of some patients, the fact that one patient seldom has over three paralytic attacks and these clustered within a short span of time, as well as reported instances of normal angiograms and normal vessels at autopsy, weaken the attractive presumption of a narrowed artery in all cases.

In this syndrome, one clinical observation deserves mention; i.e., some cases of hypoglycemic hemiplegia show neither signs of excessive adrenergic discharge nor signs of diffuse cerebral dysfunction. An intravenous infusion of dextrose seems indicated in cases of unexplained paralysis, especially if no history is available.

Transient Hypertensive Hemiplegia

The essential clinical features of hypertensive hemiplegia are:

1. The systemic blood pressure reaches extreme heights, or rises steeply, in the prodromal phases of an attack.

2. Diffuse cerebral signs such as headache, vomiting, coma, or seizures accompany the paralysis.

3. All signs disappear when the blood pressure is restored to normal levels.

As to pathogenesis, the most likely mechanism is vasoconstriction in the collateral channels surrounding a narrowed vessel supplying a part of the motor system. The vasoconstriction is really a generalized process in all the small anastomotic vessels of the brain. It is related to a simple physiological property of arterial muscle; i.e., the capacity to react by vasoconstriction to an increase in intraluminal pressure (Bayliss reflex). Alternative mechanisms include localized vasospasm, postepileptic neuronal exhaustion, and small vessel thrombosis.

Comment will be restricted to vasoconstriction of collateral channels and to small vessel thrombosis.

First, when hemiplegia occurs along with a sudden and often prolonged rise in blood pressure, administration of hypotensive agents is needed to improve collateral flow. This must be accomplished with caution. Too great a fall would have obvious consequences. Fortunately, a relatively small decrease is all that is usually required to relieve vasospasm.

The second comment, regarding small vessel thrombosis, is that reduction of blood pressure to a high normal level is wisest if it has been shown that no stenosing large vessel disease co-exists. Actually, small vessel thrombosis does not meet the three clinical criteria for transient hypertensive hemiplegia. It is more a matter of thrombosis occurring in a hypertensive patient, but reducing the blood pressure may slow the progress of small vessel disease.

Transient Postepileptic Hemiplegia

Paralysis following an epileptic seizure is usually ascribed to simple neuronal exhaustion (Todd's paralysis). Two difficulties arise in terms of diagnosis. One is that no history may be available when a stuporous hemiplegic patient is first seen. The second is that the physical signs of a previous convulsion may lead too quickly to a diagnosis of idiopathic epilepsy. A number of disease states, including brain tumor, may present themselves as convulsion followed by hemiplegia.

Transient Postangiographic Hemiplegia

Some years ago, opaque media of strong concentration and capable of damaging vascular endothelium (Diodrast) were injected directly into the common carotid arteries and transient hemiplegia was noted frequently. Possible mechanisms include:

1. Vasospasm resulting from rapid increase in intraluminal pressure (Bayliss effect), or from mechanical stimulation of the arterial walls.
2. Cerebral edema secondary to increased capillary permeability induced by the dye.
3. Local microemboli dislodged by the introduction of the needle through an atheromatous plaque.
4. Subintimal dissection consequent to the injection of dye into the vessel wall itself.

More recent techniques use smaller amounts and lesser concentrations of different dyes injected more peripherally. Neurologic complications have been far less frequent. It has been suggested that the transient paralyses that still occur may be attributable to clumping of red cells or transient alterations in serum constituents induced by the contrast media.

Transient Hemiplegia in Intracranial Aneurysms

Hemiparesis occurs actually as a result of complications of a berry aneurysm. Prior to rupture, bleeding into the aneurysmal sheath may induce vasospasm, and clotting within the aneurysm may either serve as a nidus for emboli or grow intravascularly to cause narrowing of the lumen of the vessel. After rupture, blood flow comes to an abrupt halt. In this circumstance, spasm may be due to mechanical vascular trauma caused by the

tear in the aneurysm, to the effects of contiguous blood clot, or perhaps to the effects of serotonin release.

Transient Hemiplegia in Multiple Sclerosis

It is probably a disservice to list multiple sclerosis as a cause of transient hemiplegia. Not only is it a very rare one, but there is so little that can be done for multiple sclerosis and so much that can be done for some of the other causes.

Transient Allergic Hemiplegia

Allergic hemiplegia is likely to occur in patients with a strong family history of allergy. It is often accompanied by urticarial skin reactions, and may follow meals closely. Food allergens include milk, chocolate, eggs, and shellfish. Drugs and injectibles may produce temporary hemiplegia.

It is likely that the mechanisms ascribed to other allergic reactions apply to those in the central nervous system. Production or release of chemical substances by the antigen-antibody reatcion lead to vasodilation, increased capillary permeability, and cerebral edema. Neurons are thus separated from their oxygen and glucose supply. Here, too, the focal nature of the lesion is unexplained.

Transient Hemiplegia in Brain Tumor

The type tumor that most often mimics the stroke syndrome is a curable one, the meningioma. Several explanations for the occurrence of transient deficits have been offered.

1. They may be postepileptic (Todd's paralysis).

2. The mass may cause local arterial narrowing by external pressure and hemodynamic crises may occur as in atherosclerotic stenosis.

3. Transient and recurrent cerebral edema may be a result of the tumor itself. Meningiomas have the known, but little understood, capacity to produce cerebral edema.

Transient Hemiplegia in Neurosyphilis

General paresis is one of the conditions which is said to require exclusion in persons who suffer transient hemiparetic attacks. Lissauer's form is most often mentioned. The hemiplegia is described as preceding the mental changes by months and years in some patients. Convulsions precede the hemiplegia as a rule.

Transient hemiplegia is also said to occur in meningovascular syphilis.

Well described cases are difficult to find in the literature.

Conclusion

It seems sometimes that the lessons of nerve cell susceptibility on the one hand and their inability to regenerate on the other, have been too well learned. Conversely, it seems that the concept of temporary suspension of neural activity as a result of sublethal injury has been too much ignored. It deserves great emphasis that in the early stages hemiplegia may reflect neuronal paralysis, not death. The first responsibility of the physician is to look for preventable or correctible pathophysiologic states which may induce such paralysis. This calls for more prompt and searching evaluation than is sometimes given the stroke patient, but does not require investigative techniques that are not ordinarily available. Nor, at this stage, does correction, when possible at all, depend upon highly specialized approaches.

Further, the occurrence of transient hemiplegia places a second, but equally important, responsibility on the physician. It, in itself, is a clear indication for early referral to a well equipped center. Rarely can optimum long term therapy be decided on clinical grounds alone.

HEART CATHETERIZATION IN INFANTS AND CHILDREN

EXPERIENCE WITH 250 PROCEDURES AT THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

ARNO R. HOHN, M.D.
PAUL GILLETTE, M.D.
HAZEL M. WEBB, M.D.

Today heart catheterization is an accepted procedure for the evaluation of both acquired and congenital cardiac abnormalities.[1-3] However, there are numerous reports of complications which can develop as a result of cardiac catheterization, particularly in infants.[2,4,5] Mortality from this procedure can be as great as ten per cent in the first week of life. Morbidity, either cardiac, as the result of arrhythmias, perforation and the like, or local, from vascular impairment subsequent to the insertion of cardiac catheters is also a threat.[2-5]

The Division of Pediatric Cardiology at the Medical University Hospital, has performed 250 cardiac catheterizations in infants and children during the last 18 months. This report seeks to acquaint the physicians of South Carolina with the case material evaluated, with the type of procedures performed, and with the complications experienced. It is hoped that this information will be useful in counselling and advising parents should cardiac catheterization be recommended for their child.

Patients

The patients selected for this analysis were the infants and children included in the first 250 heart catheterizations performed by the Division of Pediatric Cardiology at the Medical University of South Carolina. Between 3 November, 1967, and 1 May, 1969, 60 infants under 1 year of age and 190 children between 1 and 13 years of age were studied. The ages of the study subjects are shown in Figure I. The weight of these patients varied from 1.8 kg to 7.7 kg among the infants and from 4.7 kg to 81.5 kg among the children (Figure II). Of these patients, 8 had two catheterizations done from 4 days to 12 months apart; one patient had 3 catheterizations, each done to assess the status of his pulmonary vascular bed.

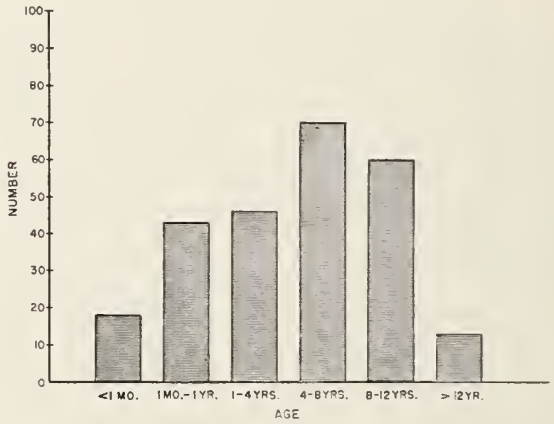


Fig. 1. Age at the time of cardiac catheterization in 250 pediatric patients.

Procedure

Children were fasted from the midnight prior to the catheterization, but infants were given a 5 a.m. glucose water feeding. On the morning of catheterization, the patients were routinely sedated with an ataractic mixture:[6] children with 0.1 ml of the

From: The Division of Pediatric Cardiology, Department of Pediatrics, Medical University of South Carolina, 80 Barre Street, Charleston, South Carolina 29401.

"Lytic Cocktail" per kg of body weight intra-muscularly (with one half dose being given to those with cyanosis), infants with 0.1 mg of morphine sulfate per kg (those with cyanosis or who were very sick received smaller doses).

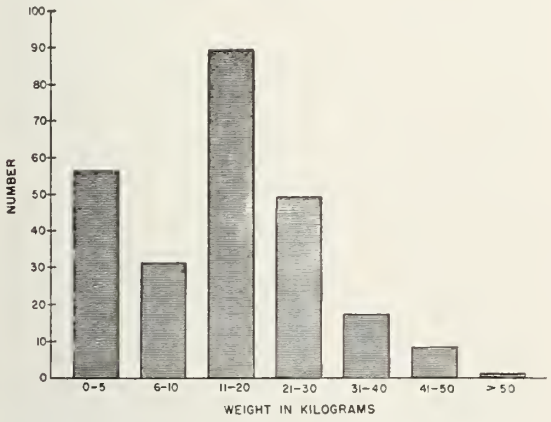


Fig. 2. Weight at the time of cardiac catheterization in 250 pediatric patients.

After the ECG monitoring was begun in all patients and after rectal temperature probes were inserted in the infants, the site for cutdown or puncture was prepared with a PhisoHex scrub and an application of Ioprep.(R) Local anesthesia was then obtained with 1% Carbocaine.(R) General anesthesia was not used except in the few cases with extreme agitation and in the 2 cases of transthoracic left ventricular puncture. In patients weighing less than 10 kg, a cutdown was performed in order to insert the cardiac catheters under direct vision. A percutaneous groin approach by a modified Seldinger technique[7,8] was used in larger patients, unless some circumstances prevented this approach. Once the vein was entered by either the cutdown or percutaneous technique, a cardiac catheter was passed under fluoroscopic guidance into the various right heart locations: the superior vena cava, the right atrium, the right ventricle, the main pulmonary artery, and the branch pulmonary artery. Blood pressures were measured in these locations and blood was withdrawn for oxygen analyses. If the foramen ovale was patent, the left atrium and left ventricle could also be sampled. Otherwise, the left heart catheterization was accomplished in a retrograde manner from a peripheral artery, again employing the percutaenous approach when possible in those weighing 10 kg or over. Selective cine-angiocardiograms were usually obtained in the left ventricle, the aorta, and the pulmonary artery, with additional injection sites as indicated. A mechanical pressure injection syringe was utilized in all save very small infants to inject the radiographic contrast media.

In 9 instances, a balloon atrial septostomy[9] was performed to increase mixing between the pulmonary and systemic circulations or to decompress the pulmonary vascular tree. This was accomplished by passing a deflated balloon catheter across the atrial septum via the foramen ovale into the left atrium. After checking its position, the balloon was inflated with 1 to 2.5 ml of contrast media then rapidly withdrawn into the right atrium in order to lacerate the valve to the foramen ovale. Following several balloon catheter passages across the foramen ovale in each patient a short diagnostic study was repeated to assess the results of the balloon septostomy.

Following the catheterization the catheters were withdrawn. In those who had the percutaneous approach, hemostasis was secured by pressure over the puncture site. In those with cutdowns, all artery and most vein incisions were repaired with 6-0 Ethaflex (R) purse string sutures.[10] Upon return to their hospital room, all patients were kept on clear liquids and flat in bed for 6 hours. By the following day most had resumed their usual activities and were discharged from the hospital.

Results

Table 1 lists the type of study included in the 250 procedures of this analysis. It

Table 1
Procedures Performed During 250 Pediatric Cardiac Catheterizations

	Number of Procedures	Per Cent
Right heart catheterizations	247	99
Infants 58		
Children 189		
Left heart catheterizations	226	91
Infants 60		
Children 175		
Combined right and left heart catheterization	223	89
Infants 58		
Children 174		
Procedures done percutaneously	171	68
Arterial 151		
Venous 168		
Cine-angiocardiography	249	99
Balloon atrial septostomies	9	4
Direct transthoracic puncture of the left ventricle	2	1
Catheter cardiac pacing	2	1

can be seen that most patients had both right and left heart catheterization and cine-angiocardiograms. In the majority of cases it was possible to pass the catheter into all desired chambers and great vessels. However, in 24 of 58 infant right heart catheterizations, it was not possible to enter the pulmonary artery. Seven of these had transpositions of the great arteries, four had Tetralogy of Fallot, four had pulmonic stenosis, and three had persistent truncus arteriosis. The pulmonary artery was not entered in 17 of the 189 children. Eight of these had transpositions and five had Tetralogy of Fallot.

In the course of the left heart catheterizations the left ventricle could not be entered with the catheter in 5 infants and 6 children. Two of the children subsequently had successful transthoracic puncture of the left ventricle with a special needle.* In the others it was not deemed essential to enter the left ventricle, and no further attempts were made. In all instances it was felt that the information obtained had revealed the correct anatomic diagnosis. The 11 cases with aortic stenosis had peak systolic gradients across the aortic valve of 10 to 150 mm Hg. In these patients, the left ventricle was entered retrogradely from the aorta in all but two instances. Of these, one was entered by way of the left atrium, and the other by transthoracic puncture. In the 8 cases with coarctation of the aorta, the coarctation was crossed in all but three. One was not tried, one was a complete interruption of the aortic arch, and the third could not be crossed.

Tables 2 and 3 list, by age groups the major diagnoses made in the 250 procedures. Many of these were complicated by other defects. It can be seen that 223 had congenital heart disease, 12 had no heart disease (9 children and 3 infants), and 15 had acquired heart disease. Of the latter, 10 had primary myocardial disease, 3 had cor pulmonale, and 2 had rheumatic heart disease.

Table 2
Major Diagnosis Found In 190 Heart Catheterizations In Children

	Number	Per cent
Ventricular septal defect	47	25
Pulmonic stenosis	22	12
Tetralogy of Fallot	21	11
Ostium secundum atrial septal defect	16	8
Ostium primum atrial septal defect	11	6
Aortic stenosis	11	6
Primary myocardial disease	10	5
Transposition of the great arteries	8	5
No heart disease	9	5
Patent ductus arteriosus	7	4
Ventricular septal defect and pulmonic stenosis	5	3
Coarctation of the aorta	4	2
Common ventricle	3	1
Cor pulmonale	3	1
Rheumatic heart disease	2	1
Other	11	6

Complications

There was 1 death within 24 hours of catheterization among the 250 procedures. This occurred in a 2 day-old infant suspected of having the hypoplastic left heart syndrome, who was catheterized to rule out transposition of the great arteries. The baby was in shock on arrival at the catheterization laboratory. Ventricular fibrilla-

*Manufactured by: Mr. Ray Hammond, 821 S. W. 6th Avenue Rochester, Minnesota 55901.

Table 3

Major Diagnosis Found In 60 Infant Heart Catheterizations

	Number	Per cent
Ventricular septal defect	12	20
Transposition of the great arteries	7	11
Tetralogy of Fallot	6	10
Truncus arteriosus	6	10
Pulmonic stenosis	5	9
"Corrected" transposition of the great arteries	4	7
Common ventricle	4	7
No heart disease	3	5
Total anomalous pulmonary venous return	2	3
Coarctation of the aorta	2	3
Hypoplastic right heart	2	3
Marfan's syndrome with mitral insufficiency	2	3
Other	5	9

tion began during the cutdown and could not be converted. The baby died 4 hours later. Post mortem examination confirmed the diagnosis of a hypoplastic left heart.

Table IV lists the complications encountered in the 250 catheterizations. These are divided into local, systemic, and cardiac groups according to age group. The loss of arterial pulsation distal to the site of catheter introduction occurred in 18 patients, and was the most common complication found in the 250 catheterizations. Thirteen of these were in infants who had a cutdown, and 5 were in children who underwent percutaneous catheterization. In 3 of the infants the small vessels were lacerated and had to be ligated, whereas the remainder had an unsuccessful arteriotomy repair. Thirty-nine other patients had decreased pulses. Twenty of these were in children tested percutaneously; 4 were in children who had cutdowns, and 15 were in infants. All cases had normal function of the affected limb and none had loss of tissue. Two other local complications were a large hematoma of the groin and scrotum which did not cause the child any permanent disability, and a perforation of the femoral artery following percutaneous puncture resulting in transient hypotension, but not requiring surgical exploration.

Three infants had systemic complications manifested by apnea. Following successful resuscitation, the catheterization was completed in these 3 babies.

In addition to the single fatal arrhythmia previously described, another infant developed ventricular fibrillation but recovered following electric defibrillation. Still another child continued in a nodal rhythm which appeared during his catheterization. Three other cardiac complications occurred. X-ray contrast dye was inadvertently injected into the myocardium in these three instances. However, no serious complication ensued, and there were no perforations of the myocardium.

Table 4

Complications

	Number	Per cent
60 Infants:		
I. Local		
loss of pulse	13	22
II. Systemic		
respiratory arrest	3	5
III. Cardiac		
severe arrhythmia	2	3*
mechanical	2	3
TOTAL	20	33
190 Children:		
I. Local		
loss of pulse	5	2.5
hematoma	1	.5
artery perforation	1	.5
II, Systemic	0	
III. Cardiac		
severe arrhythmia	1	.5
mechanical	1	.5
TOTAL	9	4.5

*Includes one fatality.

In addition to premature contractions occasioned by intracardiac catheter manipulation, 37 arrhythmias were observed in this series (Table V). Most were transient. They ranged in severity from mild sinus bradycardia to ventricular arrest. All except the fatal case of ventricular fibrillation which resulted in the described

Table 5

Arrhythmias Seen In 250 Heart Catheterizations

Sinus bradycardia	11
Atrial tachycardia	8
Atrial flutter	3
Persistent nodal rhythm*	1
Ventricular tachycardia	3
Ventricular arrest	2
Ventricular fibrillation*	2
2nd or 3rd degree heart block	7

*Also included in the complications listed in Table IV.

fatality, and the persistent nodal rhythm, were successfully managed in the catheterization laboratory. The second infant who developed ventricular fibrillation responded to electrical converison and suffered no sequelae. Two cases of ventricular arrest responded to closed chest massage and drugs, and did well. Three of the 11 cases of sinus bradycardia were associated with hypotension. All those with bradycardia responded to either atropine or Isuprel. The various atrial tachycardias responded to either vagal stimulation or drugs. No case of A-V block required a pacemaker, as all reverted to a normal rhythm spontaneously or with the use of drugs.

Discussion

With certain exceptions, the types of heart disease in the infants and children undergoing heart catheterization at the Medical University of South Carolina are very similar to other reports.[1,4,11] The small number of cases with rheumatic heart disease is probably due to the decreasing incidence of the disease and to the fact that most children with rheumatic heart disease do not require catheterization. Only 4 per cent of patients were found to have patent ductus arteriosus as their major problem. However, most children with this defect undergo operation without catheterization. The relatively large number of patients with primary myocardial disease (P.M.D.) reflects the fact that South Carolina apparently has an unusually high incidence of P.M.D.[12] Twelve patients were found to have no heart disease after catheterization. These patients were all studied when more routine tests failed to rule out heart disease, because murmurs and other physical findings suggested a cardiac disorder.

The indications for heart catheterization at the Medical University of South Carolina vary with age. In the newborn age group, persistent cyanosis and intractable congestive heart failure are the most common indications. For better management of those infants who develop congestive heart failure in the first year of life, early catheterization is recommended. Failure to thrive, with signs of congenital heart disease, is another indication for early catheterization. All children who are thought to have significant heart disease are catheterized prior to school age, so that surgery, if necessary, may be performed prior to the patient's matriculation in school.[13] Some patients are re-catheterized after surgery to assess the results of operation. Patients with patent ductus arteriosus and coarctation of the aorta are catheterized only if the clinical diagnosis or severity is in doubt.

The risks of catheterization vary directly with size and age.[2,14] As can be seen in Figures I and II, 57 of the 250 cases weighed 5 or less kilograms and 18 were under one month of age. Most of these infants were in relatively poor condition when catheterized and required a rapid diagnostic procedure.

All but one procedure on infants were done by cutdown, most in the right groin. Conversely, all but 20 of the children were tested by the percutaneous method, which has several advantages: usually the same vessels can be used later if re-catheterization is necessary, as it often is with complex lesions, and there is a lower incidence of loss of arterial supply distal to the point of entry.[15]

In every patient diagnostic information was obtained by the test. Of the 41 right heart catheterization failures to enter the

pulmonary artery, all but 9 had either pulmonic stenosis or a pulmonary artery which did not arise from the right ventricle (i.e. transposed great arteries or truncus arteriosus). In such cases the diagnosis was made by angiocardiography. Similarly, the left ventricle was entered in all cases where it was essential to do so. Thus, in all 11 of the cases of aortic stenosis, a gradient across the aortic valve could be measured to assess the severity. Direct left ventricular puncture was required for pressure measurement in two instances, and met with no complications.

With one exception, all patients had cine-angiocardiograms done during their heart catheterization. An average of 2.8 ml/kg of contrast media was utilized in 1 to 6 injections. This procedure is now an integral part of heart catheterization. It is very helpful in picking up unsuspected associated anomalies, and in sorting out seeming contradictions in the oxygen and pressure data. The angiocardiograms also give the cardiovascular surgeon a very good idea of the exact anatomy he may expect at operation.

Balloon atrial septostomy is a relatively new procedure[16] which has proved extremely valuable in palliating infants, especially neonates, with very severe anomalies, most commonly transposition of the great arteries.

Comment on Hazards

The hazards of cardiac catheterization have plagued investigators since the procedure was brought into the clinical laboratory by Cournand and Ranges in 1941.[17] Recently, a cooperative study group carried out a prospective study of the complications of cardiac catheterization.[2] In their 1968 report, 38 deaths were recorded in 1161 infants catheterized. This 3.3 per cent mortality was accompanied by a 9 per cent incidence of complications, excluding loss of arterial pulsation, which was not fully reported. At the Medical University of South Carolina, a similar experience was recorded: One death in the 60 infant catheterizations (1.6 per cent) ; and, exclusive of the loss of pulse, 10 per cent of the rest had significant complications. Thus, while heart catheterization in infants may lead to life-saving measures, it is associated with a significant risk. It must be emphasized that many of the infants undergoing the procedure are desperately ill, and it is felt that the risk of the procedure is justified.

The cooperative study group[2] reported one death among the 2889 tests performed on children between 1 and 14 years of age, and two per cent of the children had complications. Again, the Charleston series is comparable; there being no deaths in this age group and, exclusive of pulse loss, 2 per cent complications.

In our experience, compromise of arterial circulation has not led to any loss of tissue. However, there have been reports of such occurrences,[2] and we are concerned with each instance of pulse loss. The percutaneous arterial approach, in our hands, appears to offer an advantage in that only 3 per cent of the patients (5 of 151) undergoing this procedure lost pulses, whereas 17 per cent (13 of 76) of those with cutdowns lost pulses. The incidence of arterial thrombosis in the literature varies between 2 and 33 per cent.[18] The long term effects of such arterial impairment remain to be assessed.

As in the cooperative study,[2] serious arrhythmias were included among the complications seen at the Medical University of South Carolina (Table IV). Thirty-four other arrhythmias were encountered in our patients (Table V). These arrhythmias were transient with the exception of an asymptomatic persistence of a nodal rhythm. None of the remaining 33 has suffered aftereffects or recurrence of the arrhythmia.

Thus, it may be seen that, aside from transient arrhythmias and loss of arterial pulsation, 10 of 250 infants and

children (4 per cent) suffered significant complications from cardiac catheterization. Seven of these, including the single fatality, were in infants. Residual deleterious effects were not seen. Consequently, the authors feel that these results indicate a very acceptable hazard rate for pediatric patients undergoing cardiac catheterization at the Medical University of South Carolina.

Summary

Two-hundred-fifty pediatric cardiac catheterizations have been carried out at the Medical University of South Carolina in the past 18 months. Most of the patients tested had congenital heart disease and all procedures obtained the desired diagnostic information. Although loss of arterial pulsation occurred in 18 patients and was the most common complication, no tissue loss was seen. Such problems occurred in only 3 per cent of cases when the percutaneous approach was used, compared with 17 per cent of those with cutdowns. The single fatality was an infant with a lethal congenital heart defect who died shortly after the procedure. Other complications occurred in 10 per cent of the 60 infants less than a year of age tested, and 2 per cent of the 190 children. With few exceptions, the complications experienced did not lead to any permanent sequelae. These results indicate that pediatric cardiac catheterization, as performed at the Medical University of South Carolina, is a relatively safe and informative procedure.

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SELECTIVE MEDIASTINOSCOPY

A VALUABLE AID IN THE DIAGNOSIS OF PULMONARY DISEASE

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Mediastinoscopy has proved to be an effective adjunct in the armamentarium of the thoracic surgeon in diagnosing both benign and malignant intrathoracic lesions. Unnecessary thoracotomy is to be avoided, which requires that one use all diagnostic techniques available.

Daniels, in 1941,[1] first discribed supraclavicular lymph node biopsy in the evaluation of intrathoracic disease. Extension of metastatic disease to this level would certainly define incurability of an intrathoracic neoplasm. Harkens, et al,[2] in 1954, extended this technique by laryngoscopic superior mediastinal exploration through the scalene node biopsy incision. In his series, pulmonary carcinoma had lymph node metastasis in 40% of the cases. Half of these were to paratracheal nodes only, and would therefore be missed with a scalene lymph node biopsy.

Radner, in 1955,[3] first described using a transverse suprasternal incision to explore the paratracheal nodes and obtain a specimen by biopsy. Mediastinoscopy as we know it today was further developed and fully described by Carlens[4] in 1959. Shah, et al,[5] reviewed 189 patients with superior mediastinal lymph node metastasis and found irradiation therapy as effective as surgical excision in similar patients. Therefore, it would appear that mediastinoscopy is a useful procedure for the following reasons: (1) It may provide a tissue diagnosis when all other methods have failed. (2) It can determine operability by the presence or absence of metastatic disease to paratracheal lymph nodes or involvement of mediastinal structures.

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Material and Methods

During the past three years, mediastinoscopy has been performed selectively in 51 patients by the thoracic surgical staff at the Medical University of South Carolina Hospital complex. It is not done routinely as reported by Trinkle, et al,[6] but is reserved for those patients with central lesions or peripheral lesions with widening of the mediastinum. Seventeen patients had a positive tissue diagnosis established by mediastinoscopy when all other diagnostic procedures had been negative.

Technique

Patients were operated upon under general orotracheal anesthesia. The shoulders were elevated, the neck hyperextended, and after sterile preparation and drape, a small transverse, suprasternal incision was made. (Fig. 1 & 2) Using sharp and blunt dissection, the pretracheal fascia was identified and incised. Dissection was then carried caudad along the anterior border of the trachea to the carina and then along both main stem bronchi to the level of the main pulmonary arterial branches. Hemostasis was achieved with cautery and direct pressure. All specimens considered for biopsy were first aspirated with a No. 21 spinal needle. The wound was irrigated and closed in layers with 4-0 silk with drainage.

Twenty-two patients (Table 1) had

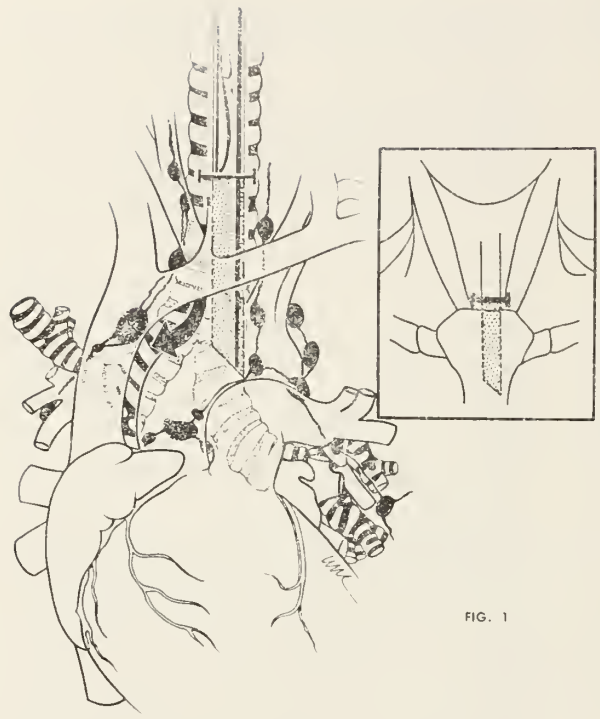


FIG. 1

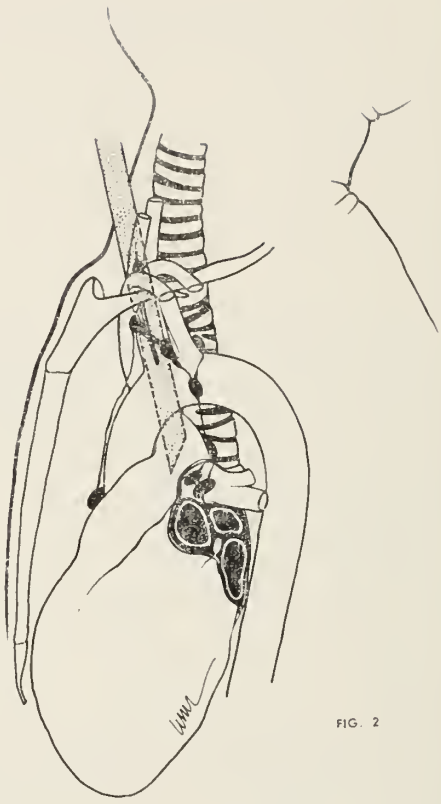


FIG. 2

Figs. 1 and 2. Artist's illustrations depicting anterior and lateral views of the mediastinoscope in relationship to the structures within the mediastinum. The instrument is just anterior to the trachea and posterior to the great vessels. Peritracheal and peribronchial nodes can be visualized and examined by biopsy if deemed necessary.

primary pulmonary carcinoma and eight had a positive biopsy specimen obtained at mediastinoscopy. Only one of the patients in whom the diagnosis was made at mediastinoscopy had thoracotomy. This required pneumonectomy, and was palliative. The other seven were not deemed candidates for operation. Seven patients with negative mediastinoscopy subsequently had thoracotomy with superior mediastinal lymph node dissection. Five of these seven patients had microscopically positive nodes. None, however, was grossly positive. The remaining seven patients did not have athoracotomy: two patients had prior lobectomy for carcinoma and follow-up x-ray films showed mediastinal widening and negative endoscopy. The other five had medical contraindications to surgery.

Table 1

Carcinoma of the lung	**22**
Tuberculosis	**5**
Sarcoid	**8**
Miscellaneous	**16**
TOTAL	**51**

Eight patients with sarcoidosis had mediastinoscopy, with positive findings in seven. Six of these had a scalene lymph node biopsy which was positive in five. There was one patient whose scalene lymph node biopsy was positive but mediastinal lymph node biopsy was negative for sarcoid. Two elderly patients with hilar masses were spared thoracotomy by the finding of classical evidence of sarcoidosis at mediastinoscopy. It cannot be stated that mediastinoscopy saved the remaining five patients a thoracotomy, because they were all young, Negro males with good clinical evidence of sarcoidosis,

including a positive scalene node in four. It is felt that mediastinoscopy further supports the diagnosis of sarcoid in these patients and gives additional tissue for culture and microscopic examination.

Five patients with pulmonary tuberculosis had mediastinoscopy for evaluation of hilar adenopathy. One patient who was sputum negative with a positive intermediate PPD had caseous necrosis in his mediastinal lymph nodes with a positive culture. A 70 year old white male with hilar adenopathy and a positive skin test had negative mediastinoscopy, thereby ruling out neoplastic disease. He was treated for tuberculosis, with follow-up chest films which showed clearing of his hilar mass. The remaining patients with negative mediastinoscopy subsequently had a positive diagnosis of tuberculosis established by the use of multiple sputum cultures, open lung biopsies and autopsy findings.

In the miscellaneous group, thoracotomy was avoided in six patients. One patient with bilateral hilar adenopathy was found to have large anthracotic lymph nodes along both main stem bronchi. Periodic x-ray films with no therapy showed evidence of clearing of his hilar adenopathy. Another patient with esophageal stricture and contracture of both upper lobes revealed the stricture to be secondary to fibrous scarring of the mediastinum. Two patients with pulmonary infiltrates and hilar adenopathy received antibiotic therapy after negative mediastinoscopy. Another patient with hilar adenopathy was found to have reticulum cell sarcoma. The last patient had unilateral adenopathy three years following resection for a malignant melanoma. No positive nodes were found at mediastinoscopy.

One pneumothorax and one intraoperative hemorrhage of approximately 400 ml of blood were the only complications.

Summary

Mediastinoscopy has proved to be a beneficial adjunct in diagnosing intrathoracic disease in selective cases. In 51 patients, a positive diagnosis was obtained in 17 when all other tests were negative. Nineteen patients were spared an unnecessary thoracotomy for diagnosis. There was no mortality.

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MEASLES VACCINE

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Florence, S. C.

Since the beginning of the general use of the live measles vaccine, rubeola has become a rare disease for us to see in our office. Recently we have seen a case of measles from which source five other cases developed, two of whom had received the measles vaccine. Another patient who was not seen, probably had measles and this child had received the measles vaccine also. This report is the recounting of this experience, a hazard in a pediatriican's office.

On the afternoon of June 6, 1969, we saw a six year old white female with measles (rubeola). Though we attempt to isolate children with potential contagious diseases this child was in the waiting room for an unknown period. This child had received Sabin polio vaccine and smallpox vaccine and two DTP injecions. The following day two siblings of this child were given gamma globulin in modifying dosage. On June 16th the 2-1/4 year old sister broke out with measles and the 3-2/3 year old brother broke out the following day. Neither of these three children showed any complications.

On June 20 we saw a 6-1/2 year old white male with typical measles. This child had been in our office for a preschool check on June 6th. He had had the Edmonston live measles vaccine with gamma globulin in our office at 9 months, 10 days of age.

On June 20th a 4-3/4 year old white female was seen with typical early measles. This child had been in our waiting room on June 6th while her eight year old sister was being checked. Neither of these children had had the measles vaccine. The older sister had no illness.

On June 22nd a 6-1/4 year old female child was seen with measles. This child had been in the office on June 6th. She had had the measles vaccine with gamma globulin in Florida at 22 months of age.

A three year old white male was in for a checkup on the appointed afternoon. Though not checked by us this mother reported a measles-like illness 14 and 15 days after the exposure. This child had received the Schwartz live measles vaccine from us at eleven months of age.

Efforts were made to contact the others who were in our office on the particular afternoon. Of the 25 others known to be present 17 were contacted and none has shown any illness.

X-RAY FILMS OF THE MONTH

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S. E. PUCKETTE, JR., M.D.**





The chest and skull films illustrated are those of a four year old white male whose most striking finding clinically was bilateral exophthalmos. The lucent areas of the skull were cystic to palpation.

This child was diagnosed elsewhere as having histiocytosis X. This is a term used to refer to the non-familial reticuloendothelioses. These may currently be considered as solitary (eosinophilic granuloma), disseminated (Schuller-Christian), malignant (Letterer-Siwe), and "variants." This child was considered to have the Schuller-Christian form.

Eosinophilic granuloma is the localized expression of this disease causing minimal symptoms. The lesions are usually limited to pulmonary infiltrations and bony defects. Letterer-Siwe is the acute malignant expression usually occurring in children less than three years of age. It is rapidly progressive. Lymphadenopathy, hepatosplenomegaly, anemia, skin, pulmonary, bone and brain involvement may be present. Congenital forms have been reported. Schuller-Christian is the chronic disseminated form involving both the viscera and bones. It usually has an insidious onset and is recognized before five to six years of age. Findings include exophthalmos, diabetes insipidus, defects in the bones, and diffuse involvement of the lungs. Skeletal lesions develop in the medullary cavity and are lytic and sharply defined. There is no endosteal reaction or marginal sclerosis.

It should be emphasized that there frequently is a disparity between the clinical and anatomic manifestations of the disease. Frequent variability in course even with identical histology is seen.

Solitary lesions following biopsy should be treated with curettage and irradiation. Chemotherapy for at least 6 months should be administered. The disseminated, malignant, or "variant" types are all treated with chemotherapy. Polyfunctional alkylating agents, sequential or cyclic antimetabolites, vincristine, vinblastine, and antimicrobials are all useful therapeutic agents. Corticosteroids may also be used.

*Assistant Professor of Pediatrics, Medical University of South Carolina.
**Charleston County Hospital.

Vinblastine is proving particularly effective. Irradiation should be used to treat local "hazardous" sites. Surgery is rarely indicated.

The older child with a solitary lesion is unlikely to have or to develop disseminated disease. The prognosis of the other types of reticuloendothelial disease is extremely variable. However, increased survival rates are noted in the "variant" category. Careful medical management and close follow-up observation appears most important in determining prognosis.

A Review of Clinical Experience with a Conjugated Estrogen Product—Stanley Gould, M.D., F. A. C. O.G., (Greenville) Clin Med 76:18-20, 1969.

In recent years there has been an increasing awareness in both the medical and the lay population of the therapeutic value of estrogen. In this article, a review of experience with a new conjugated estrogen product is presented, dealing with its use in a variety of indications including (1) estrogen replacement for peri- and post-menopausal patients; (2) functional amenorrhea; (3) (dys) functional bleeding; (4) adjunctive therapy in infertile patients; (5) selected cases of hypogenitalism with or without associated infertility; (6) frequent, but not routine, use post-hysterectomy as an anabolic agent.

We can only speculate as to the beneficial anabolic effects of estrogen, perhaps, but the clinical appearance and the subjective responses of the treated group have been most impressive. Certainly estrogen is no panacea, but it continues to emerge more prominently as an extremely useful medication; and this particular estrogen preparation (Menest) seems to be well tolerated and therapeutically efficient, with the added quality of causing virtually no undersirable or unexpected side effects.

S. G.

President's Page



Your insurance committee some years ago was charged with the duty to attain for the South Carolina Medical Association the best possible disability insurance protection plan attainable. The Committee very carefully screened a number of plans and then came up with the present one.

In 1956 when first endorsed, the maximum benefit was $100.00 weekly. In 1968 it was updated so that members may apply for $220.00 weekly income benefit. In 1961 insured members received a 10% dividend on this insurance. In 1962 premiums were reduced 10% for doctors over age 40 and 25% for doctors under age 40. In 1963 weekly benefits were increased 10% with the same low premium.

It would behoove each member of the South Carolina Medical Association to study carefully the plan selected by the insurance committee. I wish to express my deep appreciation for a job well done by this excellent committee.

The Legislative Committee, who is also doing an excellent job, has some very timely recommendations which follow.

1. That a list be compiled of the personal physician or the best friend of each legislator in the state. This would be available to the officers and Council of the South Carolina Medical Association or any other member needing it.

2. That the Legislative Committee or Executive Committee of each county medical society handle this list among their own delegation; and in case of emergency, contact these physician friends of legislators.

3. It was urged that these physician friends of legislators talk to them and offer to advise them on items of medical interest.

4. Some member of each county medical society should attend the legislative delegation meetings as an observer, and, if necessary, request that items of medical interest be placed on the agenda for discussion.

5. It was suggested that the legislative delegations be invited periodically to county, district, and state medical society meetings in order that we might get to know each other better.

This summer South Carolina will elect a Governor, Lieutenant Governor, House of Representatives and one third of the Senate.

I cannot too strongly urge each and every member of the South Carolina Medical Association to inform himself as to the ways and means of the body politic. Let's elect some members who at least will be sympathetic to the physician's ideas, attitudes and ideals.

It was comforting to learn that the Amendment to the Tax Reform Bill before the Senate which would limit a Professional Association to an annual deduction of $2,500.00 per man per year for contributions to a pension or profit-sharing plan was defeated on the floor of the Senate by an overwhelming vote. This means that now there will be no limitations on the amount a Professional Association may deduct for contributions to a pension or profit-sharing plan. Put another way, Professional Associations will continue to be taxed in all respects as a regular business corporation as the bill now stands.

William Perry, M.D., President

Editorials

SCMA Conference

The usual annual one-day conference planned primarily for county and state medical society officers, but open to all interested physicians, will be held in Columbia on February 1.

These conferences are informal sessions at which subjects relating to public health, Blue Cross-Blue Shield, activities of the Welfare Department, the Regional Medical Program, current state and national legislation, Medicaid, insurance and similar subjects of general interest are discussed authoritatively.

Those who have attended these meetings in the past have found them to be fruitful sources of information on matters of current importance to the medical profession.

50 YEARS AGO

The Journal of the South Carolina Medical Association

January 1920

The Editor complained that the cost of publishing the Journal was increasing considerably. This number was devoted to the activities of the State Board of Health, and included an account of classes for the training of midwives. It was noted that "there are probably several thousand midwives in South Carolin of one kind or another."

A sanatorium for Negroes with tuberculosis was in the process of development, partly financed by contributions from the Negroes of the state. Dr. Kenneth Lynch reported that 50 to 60 per cent of the Negro dispensary patients in Charleston were syphilitic. The war against the pit privy had begun by the State Board of Health.

"In enumerating what ought to be done to preserve health, the advantages of temperance and exercise are obvious; but instead of dilating on principles suited to every situation, it will be more proper to dwell on such as especially apply to our own. For eight months of the year, South Carolina is as healthy as any part of the globe. Our winters are delightful, and our greatest summer heats are far from being intolerably distressing. The mercury in the thermometer rises every year as high in Boston, New York, and Philadelphia, as in Charleston. I have lived in both of the latter cities, and can with truth declare, that I have suffered more from heat, in each of them, than I ever did in Charleston. If our summers are longer, and render us less able to bear continued fatigue, this is amply compensated by the superior mildness of our winters and superior fertility of our soil, which requires less labor for procuring subsistence." David Ramsay

A Dissertation on the means of preserving health in Charleston and in adjacent low country (1790)

ABBREVIATED MINUTES OF COUNCIL

SOUTH CAROLINA MEDICAL ASSOCIATION

Columbia, S. C. Wednesday, October 22, 1969

The South Carolina Medical Association met at the Blue Cross-Blue Shield Headquarters on October 22, 1969, at 2:00 p.m. The meeting was called to order by Dr. Harold P. Hope, Chairman.

The Chairman has received a report from Dr. J. H. Young, Jr., Chairman of the committee appointed to work with the Nurses Association, that some progress is being made and it is hoped that there will be a meeting of an AMA representative and a representative from the National Nurses Association before the annual meeting of AMA.

Dr. Kilgore moved that the President be empowered to appoint a replacement for Dr. J. Richard Allison on the State Board of Nursing Examiners. Dr. Perry appointed Dr. James H. Young, 1310 North Boulevard, Anderson, to replace Dr. Allison.

Dr. Atwill moved that the SCMA Council contact their Congressmen and urge the continuance of student loans. Dr. Tanner seconded. It was Dr. Cain's idea that the Congressmen should understand the reason for SCMA's change of heart in the matter of student loans, i.e., that private money is no longer readily available. Dr. Waring was asked to draft a letter incorporating the above.

Dr. Charles Dudley, representative of the Educators Mutual Life Insurance Company, appeared before Council and explained the advantages to be gained by more participation by SCMA members. Greater participation will enable greater benefits at lower rates.

Dr. Atwill moved that Mr. Meadors bring to the attention of the various County Medical Societies the advantages of greater participation by members of SCMA in the insurance program.

It was Dr. Stokes' idea that it might be a good idea to have a speaker from the insurance company participate in county meetings when possible.

It was Dr. Cain's thought that the insurance representatives have trouble getting into see the individual doctors. In view of this fact, it was Dr. Johnston's suggestion that perhaps it would be advisable to forward application blanks to the various doctors who are not now participating.

Dr. Walter M. Bonner, Jr., Chairman of the Committee on Scentific Program, Dr. Dana C. Mitchell, Jr., and Dr. Joseph F. Flowers, appeared before Council to express the need to improve the scientific meetings and the place where they are held. At this point, Dr. Perry stated that he, Dr. Gilland and Mr. Meadors were looking into the possibility of changing the place for annual meetings. Dr. Bonner requested that consideration be given to holding the meeting all day Monday and Tuesday morning, preferably, or Monday afternoon and all day Tuesday, or that a separate meeting be held for the Scientific Program rather than having it during the annual meeting.

It was Dr. Mitchell's thought that having the meeting on Wednesday afternoon was disrespectful to the speaker because of the lack of attendance. He also stated that better acoustics and exhibit space are needed. After much discussion, it was decided that Dr. Perry, Dr. Hope and Mr. Meadors would meet with the Committee shortly to iron out the situation.

Dr. Kilgore distributed to all members a written report of the Committee on Legislative Activities and then gave a verbal briefing on same. Dr. Kilgore moved that Council object to Bill H-1929, which, in

part, allows advertising by medical laboratories and that SCMA go on record as opposed to any sort of advertising by medical laboratories. Motion carried.

Dr. Joseph Flowers, a member of the committee appointed to look into the Health Career Recruitment program in the state introduced Mr. Herbert Weisberg of the South Carolina Hospital Association who asked the help of SCMA in publishing and distributing a new Health Careers Directory. It was his estimate that 3,000 copies could be printed for $6,400 and would cost $1,000 to distribute. After discussion, Dr. Ben N. Miller moved that SCMA contribute $1,000 as a co-sponsor. (Passed)

Dr. Vince Moseley, after distributing to all members a written report, gave a brief verbal report on Comprehensive Health Planning and SCRMP. After much discussion, Dr. Perry moved approval of Dr. Moseley's recommendation that SCMA activate the South Carolina Regional Medical Program Districts Commitee, and that it be a recommendation of theirs that these members of the SCRMP Local Medical Districts Committees be recommended to the Areawide Planning District Governing Boards as members to be selected also to serve as district representatives on the Health Planning Councils or Committees of the districts. Motion carried.

Dr. D. Strother Pope moved that Dr. O. Waitus Tanner be appointed to replace Dr. DuBose Dent on SCRMP. Motion carried.

Mr. Meadors reported that he had met with four county societies recently and had two more lined up. No applicants for the position as his Assistant have as yet been interviewed. Mr. Meadors read a letter from Richardson Medicard, Inc., requesting permission to advertise in the Journal and also requesting a mailing list. The only difference between this credit card and any other credit card is that it applies only to medical services. It is AMA's feeling that the use of credit cards by doctors is all right provided they are not used by the doctor to exploit the patient or used for the purpose of advertising and that it was a question for the county medical societies to decide.

There was much discussion about articles appearing in AMA's publication regarding the recent Charleston situation. Dr. Hawk reported that he had talked with Dr. Howard of AMA and requested a retraction and that Dr. McCord is also requesting a retraction. Dr. Hawk is still corresponding with Dr. Howard regarding these articles. Dr. Perry moved that SCMA's delegates to AMA introduce a resolution protesting AMA's articles and request that action be taken to retract same in the very near future.

Dr. D. Strother Pope thanked Mr. Meadors for the good job he is doing and for taking a good many of the duties from his shoulders. Dr. Pope then requested that the subcommittees be appointed as soon as possible and that he be furnished a list of same. Dr. Pope then read a letter from the Palmetto Medical, Dental and Pharmaceutical Association recommending that either Dr. Claude L. Stephens, Dr. Cyril O. Sapann or Dr. Turner M. McCottry be appointed to replace Dr. McFall on the Hospital Advisory Council to the State Board of Health. Council instructed Dr. Pope to reply to the letter advising that at this time there is no vacancy as Dr. Henry C. Robertson, Jr., has already been appointed by the Governor for this position.

Dr. Joseph I. Waring gave a most comprehensive report. Dr. Waring interviewed two or three prospects for his successor as Editor of the Journal but none seemed too interested. Dr. Waring said the Journal will issue a rather elaborate edition of approximately 150 pages on the RMP Conference, the cost of said edition to be paid for by RMP.

Dr. Waring reported that the Student AMA is to have a Regional Conference in Charleston. SCMA has contributed $100 toward the cost of the conference and

various county societies have also contributed.

Dr. Waring reported that he had written the President of the Student AMA and offered the services of the Journal. Dr. Cain suggested that SCMA seek permission to greet the conference.

Dr. Parker moved that $50 be spent on a tri-centennial edition of the Journal. Motion carried.

Dr. J. Hal Jameson gave a verbal report on industrial medicine and reported that it was his opinion that SCMA has a good relationship with the Industrial Commission.

Dr. Stokes gave his Treasurer's Report which was approved with thanks on motion of Dr. Cain.

Dr. Cain moved that per diem be raised to $50 per day for delegates to AMA. Motion carried.

After presentation, Dr. Jameson moved that the budget proposed for 1970 be adopted. Motion carried.

Dr. Miller moved that Mr. M. L. Meadors and Dr. J. I. Waring succeed themselves as Executive Secretary and Editor of the Journal, respectively. Motion passed.

Dr. Kilgore moved that the name of SCALPEL be changed to SOCPAC. Motion passed.

D. Strother Pope, M.D., Secretary

(See Budget On Next Page)

WILLIAM S. HALL PSYCHIATRIC INSTITUTE

Columbia, South Carolina

CONTINUING EDUCATION, 1969-1970

Program

As a part of the William S. Hall Psychiatric Institute's Continuing Education program for 1969-70, a symposium will be held January 28, 29, 1970 on Behavior Problems in Children.

Psychosomatic Medicine Symposium: 12 hours. April 1, 2, 1970. Genesis, basic principles, and the various kinds of somatic disorders resulting from maladaptive living.

In-Service Training:

The Psychiatric Examination: 8 hours a day for 3 days. A review of the basic psychiatric examination for practicing physicians. Includes supervised reading, comprehensive medical and psychiatric history, mental status examination, and neurological evaluation, providing adequate basis for definitive diagnosis. Times scheduled by arrangement.

Basic Psychiatry: 8 hours a day for 3 days. A review that includes concepts of behavior, personality development, adaptive mechanisms, and psychopathological manifestations. Prescribed studying, clinical conferences, and seminars. Times scheduled by arrangement.

Clinical Syndromes in Psychiatry: 8 hours a day for 3 days. A review of the basic psychiatric disorders as may be expressed in behavioral, psychological, and physical symptoms with emphasis on criteria for differential diagnosis. Guided reading, audio-visual aids, clinical conferences, and seminars. Enrollees perform procedures under supervision. Times scheduled by arrangement.

1969 and 1970 Budgets

	1969 Budget	Amt. used thru Sept.	1970 Budget
Secretary ($1,500)			
Office Help	$ 900.00	$ 675.00	$ 900.00
Office Expense	300.00	—	300.00
Secretary's Travel	300.00	—	300.00
Journal ($30,600)			
Editor's Salary	$ 2,400.00	$ 2,250.00	$ 2,400.00
Editor's Office Expense	1,500.00	902.43	1,500.00
Adv. Mgr. Salary	1,200.00	900.00	1,200.00
Printing	25,000.00	17,697.64	25,000.00
Postage	—	—	500.00
Executive Office ($60,400)			
Ex. Secy. Salary	$19,687.50	$14,687.50	$22,500.00
Office Help	15,000.00	12,185.00	15,000.00
Travel	2,000.00	1,080.17	4,000.00
Rent	2,400.00	1,800.00	2,400.00
Office Supplies	1,500.00	1,416.93	1,500.00
Assistant	—	—	15,000.00
AMA Meetings ($6,350)			
Delegates' Expense	$ 2,500.00	$ 578.10	$ 5,000.00
Other Travel	600.00	600.02	600.00
Hospitality Suite	750.00	680.32	750.00
Committees ($4,600)			
Infant & Child Health	$ 200.00	—	$ 200.00
Maternal Health	200.00	—	200.00
Historical	500.00	—	500.00
Public Health Info.	200.00	163.03	200.00
Misc. Com. Expense	500.00	723.86	500.00
P. R. Committee	3,000.00		
Chm. Salary $1,200		900.00	1,200.00
Chm. Expense $1,800		819.04	1,800.00
Woman's Auxiliary ($3,000)			
Appropriation	$ 2,000.00	$ 2,210.00	$ 2,000.00
Auxiliary Bulletin	1,000.00	2,222.18	1,000.00
General Expenses ($24,900.00)			
Audit	$ 1,000.00	$ 1,172.50	$ 1,000.00
Benevolence Fund	1,200.00	675.00	1,200.00
Conf. & Meetings	1,500.00	456.40	1,500.00
Contingent Fund	1,500.00	834.16	1,500.00
Delegates to SAMA	250.00	300.00	250.00
Insurance	1,800.00	1,751.40	2,400.00
Interest	—	—	—
Medico-Legal	1,000.00	500.00	1,000.00
Newsletter	750.00	562.53	750.00
Postage	1,200.00	1,748.47	2,200.00
President's Expense	1,500.00	1,125.00	1,500.00
President's Gift	200.00	200.00	200.00
SAMA PR Mileage Expense	300.00	—	300.00
Taxes	1,500.00	1,731.30	3,000.00
Tel. & Tel.	2,400.00	2,229.61	3,000.00
Treasurer's Expense	100.00	100.00	100.00
Retirement Pension Plan	4,198.77	3,855.98	5,000.00
	$20,398.77	$79,733.57	$24,900.00



Dr. Joseph F. Garner has opened his office for the practice of ophthalmology at Parkwood Professional Center, 1249 Savannah Highway, Charleston. Among the South Carolina doctors who have participated in the Volunteer Physicians for Viet Nam are **Drs. Gilbert Bradham, Cornelius B. Burns, Julian Buxton, Charles T. Fitts, Harry Gregorie, Carl J. Hiller, Edward E. Kimbrough III, Foster Marshall II, Walter Newton Jr., Jennings K. Owens Jr., William M. Rambo, James Reid, John Sutton** and **Robert Wilson Jr.** Newly elected officers of the Greenwood County Medical Society include president, **William Roche, M.D.**, vice-president, **W. P. Turner, M.D.**, secretary-treasurer, **John Scott, M.D. Dr. Raymond C. Ramage**, general and thoracic surgeon and member of the Greenville General Hospital medical staff since 1953, has been appointed director of medical education for the Greenville Hospital. **Dr. J. C. McAlpine** of Bennettsville has been elected vice president of the Wateree Tuberculosis and Respiratory Disease Assn. **Dr. R. W. Penick**, medical director of the Greenville County Health Dept., spoke at a sixth district meeting of the S. C. Nurses Assn.

Dr. Lawrence Hester Jr. of Charleston has been named to represent the American Board of Obstetrics and Gynecology on the first Board of Directors of the American Board of Family Practice. **Dr. Dexter B. Rogers** of Easley has been elected president of the Pickens County Medical Society. **Dr. David W. Mauldin** of Pickens was elected vice president and **Dr. W. Carl Walsh Jr.** of Easley, secretary-treasurer. **Dr. Olga Pruitt** of Anderson observed her 85th birthday in November. She began her medical practice in Anderson in 1911, the first woman doctor in that section of the state. Newly elected officers of the Medical Society of South Carolina include **Dr. Henry C. Robertson Jr.**, president; **Dr. Henry Heins**, vice president; **Dr. F. M. Ball**, secretary-treasurer. **Dr. Peter Gazes** of Charleston addressed the Marion County Memorial Hospital Medical staff at a meeting in November. **Dr. W. E. Baldwin** of Abbeville and **Dr. John M. Preston** were honored recently at the State Board of Health's Employee Service Recognition Day. **Dr. N. B. Baroody** has been named medical advisor for the Florence County Unit of the S. C. Heart Assn.

Dr. Robert E. Bell Jr., of Columbia has been certified as a diplomate in Child Psychiatry. He is chief of the Child Psychiatry Fellowship Program at the William S. Hall Psychiatric Institute. **Dr. James S. Garner**, general practitioner of Mullins, has been elected chairman of the board of directors of the S. C. Academy of General Practice. **Dr. George Price** was recognized this fall for his service as chief of staff of Mary Black Memorial Hospital, Spartanburg. He is succeeded by **Dr. Julian Williams.** Several South Carolina physicians participated in the annual meeting and scientific sessions of the American Heart Association this fall in Dallas. Serving as official delegates were **Dr. Donald E. Saunders Jr.** of Columbia, president of the S. C. Heart Assn., and **Dr. Charles P. Summerall III** of Charleston, president-elect of the state organization. **Dr. C. Warren Irvin Jr.** of Columbia was an alternate delegate. Others attending included **Drs. Haim Bicher, Margaret Conrad, Peter C. Gazes, Grady Hendrix, Arno R. Hohn, Eleas Lawandales,**

D. P. von Lehe, Broadus F. Sowell, David G. Askins Jr., Edward C. O'Bryan and Sylvia Crawley. Re-elected this fall to active membership in the American Academy of General Practice were Dr. B. C. Phillips Jr. of Williams, Dr. Herbert Schreiber of Camden, Dr. Hugh H. Wells of Seneca, Dr. F. M. Dwight of Bamberg, Dr. Edgar Nelson Sullivan of Clinton, Dr. Richard Y. Wescoat of Lancaster, Dr. Joseph Davis James of Summerville, and Drs. Thomas C. Furman and Floyd F. Griffin Jr. of Greenville.

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings commencing July 1, 1970, in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358; second year $12,496; and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, Drawer 119, Columbia, South Carolina 29202.

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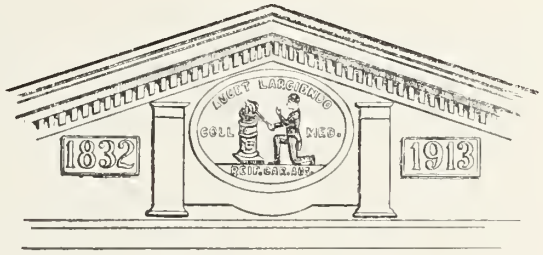
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We have salesmen living in South Carolina to serve you

We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.



Medical University of South Carolina

Dr. Gerald M. Donovan was recently appointed associate professor in Psychiatry. Dr. Donovan, a graduate of the University of Virginia, School of Medicine, held positions as clinical assistant professor with the Psychiatry Department of the University of North Carolina Hospital, director of Professional Training and Education at the Dorothea Dix Hospital in Raleigh, North Carolina and consultant and acting chief of the psychiatry Training Branch of the National Institute of Mental Health before joining the faculty of the Medical University.

Dr. Julian M. Burn has accepted a position on the faculty of the Department of Psychiatry here. He received his undergraduate degree from the University of Illinois, his M.A. from Northern Illinois University and his Ph.D. from the University of Oklahoma. Dr. Burn was most recently associated with the Veterans Administration Hospital in Danville, Illinois.

Dr. John G. Buchanan, currently a staff psychiatrist at the U. S. Naval Hospital here in Charleston, has accepted an appointment to the School of Medicine as clinical associate in Psychiatry. Dr. Buchanan received his A.B. from Amherst College and his M.D. from George Washington University College of Medicine. He took his residency at Illionis State Psychiatric Institute, where he was chief resident.

Dr. C. D. Graber, associate professor of Microbiology, was elected to the French Society of Immunology, October 2. Dr. Graber is among a selected few to be elected to this society. He is also a member of the American Association of Immunology.

Dr. H. Biemann Othersen spoke at the Southern Medical Association Meeting in Atlanta, Georgia on, "Thoracic Surgical Emergencies in the Newborn," November 10.

Dr. Curtis P. Artz was elected vice-chairman of the Board of Governors of the American College of Surgeons, recently, when they held their meeting in San Francisco. He also serves that organization as chairman of its Committee on Trauma. Dr. Artz was guest speaker at the meeting of the American Academy of General Practice in Philadelphia, recently. His topic was, "The Treatment of Burns."

He was made president-elect at the 29th Annual Meeting of the American Association for the Surgery of Trauma in Portland, Oregon.

Dr. Artz was the moderator of a panel discussion and spoke at the meeting of the Virginia Chapter of the American College of Surgeons, on, "Trauma and Shock," October 17.

Dr. Artz was invited to be one of the guest speakers of The Georgia Surgical Society at their meeting at Sea Island, Georgia, and spoke on burns and changing concepts in the treatment of duodenal ulcer disease.

Dr. Peter C. Gazes spoke at the American Society of Anesthesiologists Meeting on, "Coronary Disease and the Faltering Heart," in Atlanta, recently. He also spoke to Industrial Physicians on, "Coronary Disease," in Charlotte, North Carolina, September 20 and was a moderator of the

Panel On Risk Factors at the Mid-Atlantic Regional Heart Leadership Conference in Asheville, North Carolina, September 21.

Dr. G. H. Orvin led a workshop session on the treatment of mixed anxiety and depression at the symposium, The Treatment of Anxiety and Depression: A Mid-Atlantic Overview, in Washington, D. C., October 9.

Dr. Samuel Weigle attended the District 8 meeting of the American Society of Anesthesiologists held at the Regency Hyatt House in Atlanta, September 10-13, and presented a lecture entitled, "Development of an Inhalation Therapy Department."

Dr. Rhett Talbert presented a talk entitled, "Parkinsonism—Current Treatment, Including Experience with L-DOPA," at the Portsmouth Naval Hospital, Portsmouth, Virginia, October 10.

Dr. Hiram Curry spoke before the Beaufort County Medical Society on, "Bedside Diagnosis of Stroke," recently.

Dr. William Lee addresed the Byerly Memorial Hospital staff in Hartsville, South Carolina on, "Surgical Therapy in Pulmonary Emphysema," October 15.

ANNUAL SCMA CONFERENCE

February 1 **Columbia, S. C.**

Midwinter Meeting of County Medical Society Officers
Other interested physicians are cordially invited
Luncheon as guests of the
South Carolina Medical Association
(please notify Mr. M. L. Meadors if you plan to attend)
Program and notice of meeting place will reach you later

MISCELLANY

A new seven-bed Coronary Care Unit was opened Dec. 1 at Spartanburg General Hospital.

Groundbreaking ceremonies were held in November for the beginning of the $21,000,000 Greenville General Hospital expansion program.

8-Days Medical Tour to the Soviet Union visiting Moscow and Leningrad and including a comprehensive medical program has been announced for April 10-18, 1970. The all-inclusive rate is $495.00 from New York. Travel arrangements are being handled by Compass Travel Bureau Inc., 55 West 42nd Street, New York, N. Y. 10036, to which all inquiries should be directed. Flights are on Pan American World Airways scheduled direct service to Moscow.

On May 4-5, 1970 The American Cancer Society will sponsor the 12th annual Cancer Seminar in Las Vegas, Nevada at the Frontier Hotel. Ten leading physicians from throughout the United States have accepted to speak to this assembly.

The newest facility announced for the Lexington County medical complex which will center around the new Lexington County Hospital is a 100-bed rehabilitation hospital. The structure will adjoin the new Lexington County Hospital. A Doctor's Complex is being constructed directly across Highway No. 378 from the hospital.

A guide to First Aid in the Home has been produced for the public by the Council on Family Health, a non-profit organization sponsored as a public service by members of the drug industry. Copies may be obtained at a small cost from the Council on Family Health, Dept. FA, 485 Madison Avenue, New York. N. Y. 10022.

COMMUNITY HEALTH PLANNING IN SOUTH CAROLINA

E. KENNETH AYCOCK, M.D.

SOUTH CAROLINA STATE BOARD
OF HEALTH

"Our overtaxed health resources are being wastefully utilized, and we are not adding to them fast enough to keep pace with rising demand. Our health priorities are critically out of balance. Our incentive systems all lead to overuse of high-cost acute-care facilities, while the need increasingly is for lower-cost alternatives. We emphasize spectacular achievements in the healing arts, but have given too little attention to the prevention and early care of illness, which must be the first line of attack on our health problems."

From: "A Report on the Health of the Nation's Health Care System"
Robert H. Finch, Sec. of Health, Education & Welfare

Secretary Finch has expressed the national need for better health care and better health for the citizens of the United States. The same holds true for South Carolinians. Indeed, current statistics on infant mortality, available hospital bed space, causes of death, the number of patients per physician, the rate of population increase, and related factors would indicate that the need for better health care in South Carolina is even greater than the national need.

In the attempt to meet these ever increasing needs, the Federal government has passed 'The Comprehensive Health Planning and Public Services Amendments of 1966," Public Law 89-749 and "The Partnership for Health Amendments of 1967," Public Law 90-174.

These laws are designed to promote and assist in the extension and improvement of comprehensive health planning and services. They are also intended to broaden the scope of and to improve the authorization for research and demonstrations related to the delivery of health services. Section 314 (b) of Public Law 89-749 provides authority for Federal monies to be granted to district planning agencies for comprehensive health planning activities.

The Partnership for Health concept is aimed at cooperation between Federal, State and local health interests. Flexibility in the use of public health funds allocated to the states, as determined within the state, is implicit in the law, outmoding the charges of stringent Federal control in the spending of money by the States.

Governor Robert E. McNair in 1967 designated the State Board of Health as the single agency to administer the comprehensive health planning program in South Carolina. This was reinforced in 1968 when the "State Comprehensive Health Planning Act" was passed by the South Carolina General Assembly, formally designating the State Board of Health "to be the single and official State Agency for administering the State's health planning functions as defined in the Federal Act."

A full-time salaried staff for the Office of Comprehensive Health Planning has the duty of assisting the Comprehensive Health Planning Agency in creating a state comprehensive health plan. This plan must include (1) a statement of broad health goals; (2) a delineation of planning regions or areas; (3) demographic and epidemiologic data; (4) inventories and analysis of existing health-related programs and resources; (5) an assessment of the availability and utilization of health facilities, services and manpower in relation to identified health problems; (6) a statement of short and long-range health objectives to meet identified health needs; (7) a list of priorities for action in accomplishing objectives; and (8) a schedule for plan implementation, including recommended legislation, financing, evaluation, and organizational responsibilities.

The development of a state comprehensive health plan is not intended to be a one-time operation to produce a neatly bound report which can be conveniently filed away. Comprehensive health planning is a continuing operation, a loose-leaf document which will be added to and amended as some deficiencies are met and others are uncovered. Priorities for the allocation of resources must constantly be examined and revised. As long as the health needs of South Carolinians are changing, there can be no "final" comprehensive health plan.

The statewide comprehensive health program is being prepared in coordination with the advice and recommendations of the 25-member Advisory Council for Comprehensive Health Planning formed by gubernatorial appointment in 1967. The majority of the council members are health services consumers, representing the people of South Carolina in general, for the people are the central focus of health activity. The rest of the council are representatives of state and local, public and private agencies and organizations that provide health services to South Carolinians. Sol Neidich, M.D., a general practitioner in Beaufort, S. C., represents the S. C. Medical Association on the Council. These consumers and providers of health services combine forces to identify and plan for needed changes in South Carolina health care.

The Advisory Council for Comprehensive Health Planning reviews recommendations from its committees, the Health Forum, and from five task forces studying different facets of health care in the state. The Advisory Council then makes its recommendations to the Executive Committee of the State Board of Health.

The Advisory Council has fostered interagency cooperation by recommending that copies of all health related budget requests, with justifications, be submitted to the State Board of Health. The action is an attempt, through the Interagency Coordination Committee, to minimize duplications and overlapping of state health related services to the people.

Based on an Advisory-Council-approved study, done by Professor W. Hardy Wickwar of the University of South Carolina Bureau of Governmental Research and Service, 13 regional health planning districts were designated by the Council. They were revised at a later time, however, to coincide with the ten planning districts established by the Governor in March, 1969.

The Council has further recommended that state funds for local health planning commissions should be provided on a matching basis. This recommendation was presented to the Senate committee which was studying hospital costs. The Council opposed the transfer of the authority of the Pollution Control Authority from the State Board of Health to the South Carolina Water Resources Commission.

The liberalized abortion bill (S-32) was endorsed, as was Bill S-29 (authority for cities to join and plan together) and Bill S-63 (prohibiting the cancellation of certain accident, health or hospitalization insurance policies).

These and other recomendations of the Advisory Council have been approved by the Executive Committee of the State Board of Health and action has begun wherever possible.

Five standing committees have been established and are active:

(1) The Legislative Review Committee studies, evaluates and makes recommendations on state and local legislation affecting health. The purpose is to determine the consistency of this legislation with the concept of statewide planning as delineated in the State Plan, and to recommend amendments to legislation or additional legislation required to carry out the purposes of statewide comprehensive health planning.

(2) The State Plan Committee assists the State Board of Health with the development of a comprehensive State Plan, designed as a mechanism through which

the planning activities of all the health and related elements can be linked together. The State Plan is formally written and continually updated by this committee. It is charged with reviewing and approving the plan for application for Federal funds to help finance comprehensive health planning in South Carolina.

(3) The Interagency Coordination Committee examines the programs of the various health related state agencies to help prevent duplications of effort and to minimize inconsistencies among the various programs. The State Agency for Vocational Rehabilitation, Department of Education, Department of Mental Health, Medical University of South Carolina, Department of Public Welfare, Department of Mental Retardation and the Interagency Council on Aging are represented on this committee.

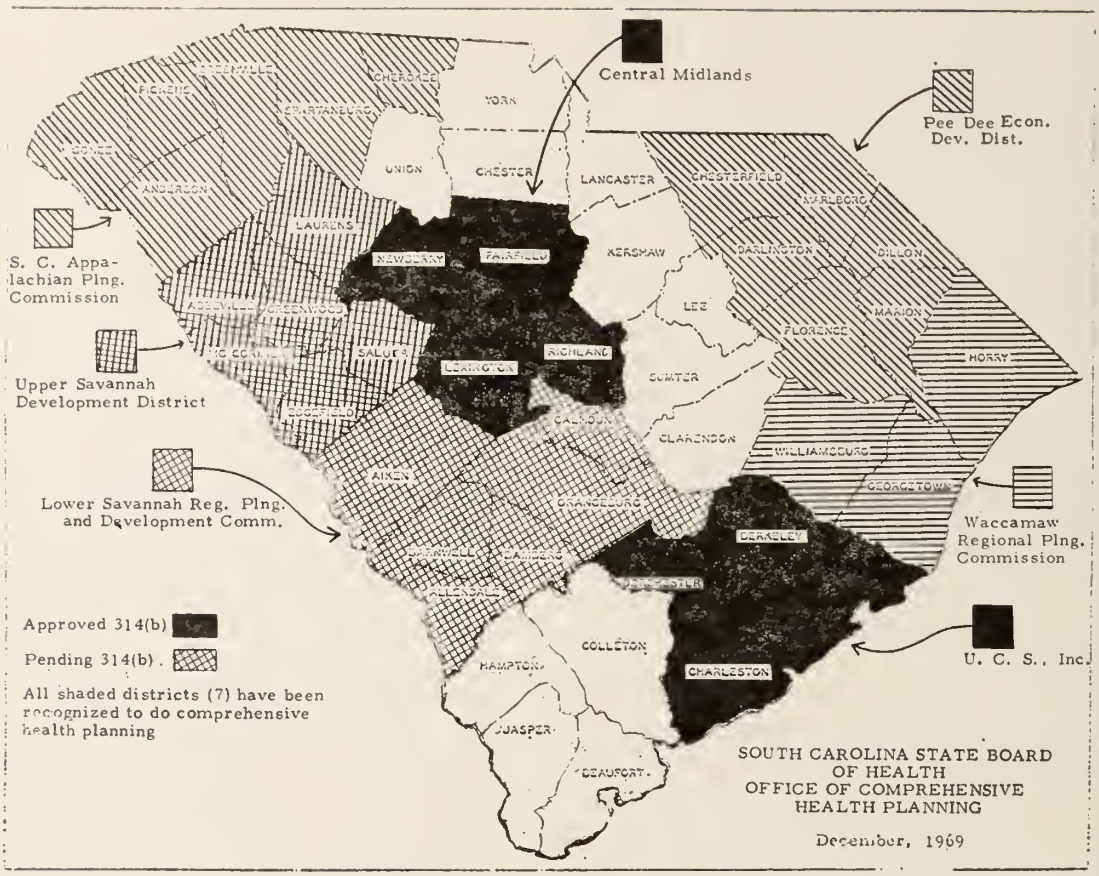
(4) The Committee on Regional Health Planning recommends methods of stimulating and guiding regional health planning. It assists in establishing regional health planning agencies, and acts as a liaison between regional planning councils and the Advisory Council for Comprehensive Health Planning. It also makes recomendations to the Council as to whether local health planning is in accord with the state plan for comprehensive health.

(5) The Committee on Health Problems and Needs identifies health needs and unsolved health problems and prepares recommendations for Council action pertaining to selection of methods of meeting these needs through the use of available resources or development of new resources.

To insure that the health care programs are relevant to the needs of health services consumers, the State Health Planning Authority (the State Health Officer) directed the formation of a 100-member Health Forum which allows for the involvement of the citizens of South Carolina both in the planning and the implementation of health programs. The Forum also is composed of a majority of health consumers, with the minority consisting of providers of health services. It is designed to act as a two-way medium in bringing information to the Advisory Council about health needs, problems and resources in the communities and in carrying back to its agencies and communities information received at its meetings. The Council expects to obtain from the Forum ideas and recommendations on ways of improving the delivery of health services. The Forum members also serve as leaders in their communities in stimulating local action for planning and providing health services.

The development of a meaningful state plan is dependent upon the input of data, information, opinion and ideas from many sources. Five task forces of 25 members each, with representatives of a wide variety of professions, socio-economic groups and geographical distribution have been formed by the Advisory Council to study health education, health facilities, health manpower, health services and health resources. These task forces will make their reports to a Task Force Review Committee in 1970. This committee will correlate these reports and present them to the Advisory Council for consideration. The Advisory Council in turn will use the reports to help establish priorities of action for the comprehensive health planning program which will be acted on by the Executive Committee of S. C. State Board of Health.

In the last year, the Comprehensive Health Planning Agency has made its highest priority of business the stimulation and organization of areawide comprehensive health planning agencies. The State Board of Health, based on the advice of the Regional Health Planning Committee and the Advisory Council for Comprehensive Health Planning, recently recognized six agencies in South Carolina to do district comprehensive health planning. These are: (1) S. C. Appalachian Region Health Policy and Planning Council in planning district 1; (2) Upper



Savannah Development District in planning district 2; (3) Central Midlands Regional Planning Commission in planning district 4; (4) Lower Savannah Regional Planning and Development Commission in district 5; (5) Waccamaw Regional Planning Commission in district 8; and (6) Charleston Area Comprehensive Health Planning, Inc. in planning district 9. Comprehensive health planning agencies are being organized in planning districts 1, 2, 4, 5, 8, and 9. Approval of the Pee Dee Development and Planning Commission is pending. All these agencies have made commitments to form local Health Planning Advisory Councils with a majority membership of consumers of health services. They also have agreed to conduct comprehensive health planning for their districts.

The importance of local involvement in the planning for a comprehensive health program cannot be overstressed. Comprehensive Health Planning is the process that permits a local district to decide (1) how much it wants to spend on health and (2) how it wants to spend it, e.g. whether for facilities, environmental health, preventative medicine, etc. The Planning Agency's role is an educational one rather than a managerial or operational role. The success of the Comprehensive Health Planning Agency (the State Board of Health), Advisory Council and its committees, the Health Forum, the task forces and the total effort for comprehensive health planning is dependent on the involvement and cooperation of the people of South Carolina. The Federal and State "Partnership for Health" includes the people of South Carolina. Indeed, it cannot function without the people.

South Carolina has made achievements in the quality of health care beyond anything imagined at the turn of the century. That very success has led to the present



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It is the time when mativatian is highest—when a new mother needs expert advice far the future, so she can space her children and limit her family.

It is alsa the mast opportune time, since she is canveniently present in the haspital, far her ta be given bath instructians and a prescriptian.

Nan-nursing mothers may begin Ovulen-21 immediately after delivery, an the day of departure fram the hospital or at the first pastpartum visit, as desired. It is recammended that nursing mothers begin Ovulen-21 four weeks after delivery.

A small fraction af the hormanal agents in aral cantraceptive pills has been identified in the milk af mathers receiving these drugs. The long-range effect an the nursing infant cannat be determined at this time.

Indication—Oral cantraceptian.

Contraindications—Thrambophlebitis, thrombaembalic disarders, cerebral apaplexy ar a past histary of these canditians, markedly impaired liver functian, known or suspected carcinama af the breast, knawn ar suspected estragen-dependent neoplasia, undiagnased abnarmal genital bleeding.

Warnings—Watch far the earliest manifestatians of thrambatic disarders (thrambaphlebitis, cerebravascular disarders, pulmonary embalism, retinal thrombasis); if present ar suspected discantinue the drug immediately.

British studies reparted in April 1968[1,2] estimate there is a seven- ta tenfald increase in martality and marbidity due ta thrambaembalic diseases in wamen taking aral cantraceptives. In these cantralled retrospective studies, invalving 36 reparted deaths and 58 haspitalizatians due ta "idiapathic" thrambaembalism, statistical evaluatian indicated that the differences abserved between users and nan-users were highly significant. The canclusians reached in the studies are summarized in the table belaw:

Comparison of Mortality and Hospitalization Rates Due to Thromboembolic Disease in Users and Non-Users of Oral Contraceptives in Britain.

Category	Mortality Rates		Hospitalization Rates (Morbidity)
	Age 20-34	Age 35-44	Age 20-44
Users of Oral Contraceptives	1.5/100,000	3.9/100,000	47/100,000
Non-Users	0.2/100,000	0.5/100,000	5/100,000

Na camparable studies are yet available in the United States. The British data, especially as they indicate the magnitude af the increased risk ta the individual patient, cannot be applied directly ta wamen in ather cauntries in which the incidences of spantaneausly accurring thromboembalic disease may differ.

Discantinue medicatian pending examinatian if there is sudden partial or complete loss af visian, ar sudden anset af praptasis, diplapia ar migraine. Withdraw medicatian if papilledema ar retinal vascular lesians are faund.

Since the safety of Ovulen in pregnancy has nat been demanstrated, it is recammended that pregnancy be ruled out far any patient wha has missed twa cansecutive periods before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the passibility af pregnancy shauld be considered at the first missed periad.

A small fractian of the harmane agents in aral contraceptives has been identified in the milk af mathers receiving these drugs. The lang-range effect an the nursing infant cannat be determined at this time.

Precautions—Pretreatment physical examinatian shauld include special reference ta the breasts and pelvic argans, and a Papanicalaau smear.

Endacrine and passibly liver functian tests may be affected by Ovulen. Therefare, it is recammended that such tests if abnarmal be repeated after the drug has been withdrawn far twa manths.

Pre-existing uterine fibramyamas may increase in size under the influence af pragestagen-estragen preparatians.

Because these agents may cause same degree af fluid retention, canditians which might be influenced by this factar, such as epilepsy, migraine, asthma, cardiac ar renal dysfunctian, require careful abservation.

In breakthrough bleeding, and all irregular vaginal bleeding, consider nanfunctianal causes. Adequate diagnastic measures are indicated in undiagnased vaginal bleeding.

Carefully abserve patients with a histary af psychic depressian and discantinue the drug if severe depressian recurs.

Any possible influence af pralonged Ovulen therapy an pituitary, avarian, adrenal, hepatic ar uterine functian awaits further study.

A decrease in glucase talerance has occurred in a significant percentage af patients on aral cantraceptives. The mechanism af this decrease is abscure. Far this reasan, diabetic patients shauld be abserved carefully while receiving Ovulen.

Because af the effects of estragens an epiphyseal clasure Ovulen shauld be used judiciously in yaung patients in whom bane grawth is nat camplete.

The age af the patient canstitutes na absalute limiting factar, althaugh Ovulen therapy may mask the anset af the climacteric.

The pathalagist shauld be infarmed af Ovulen therapy when relevant specimens are submitted.

Adverse Reactions—A statistically significant assaciatian has been shawn between use af aral cantraceptives and the fallawing seriaus adverse reactians: thrambophlebitis, pulmanary embolism.

Althaugh available evidence is suggestive af an assaciatian, such a relatianship has been neither confirmed nor refuted far the fallawing seriaus adverse reactians: cerebravascular accidents, neura-ocular lesions, e.g., retinal thrambasis and aptic neuritis.

The fallawing adverse reactians are knawn ta accur in patients receiving aral cantraceptives: nausea, vamiting, gastraintestinal symptams (such as abdaminal cramps and bloating), breakthraugh bleeding, spatting, change in menstrual flaw, amenarrhea during and after treatment, edema, chlaasma ar melasma, breast changes (tenderness, enlargement, secretian), change in weight, changes in cervical erasian and cervical secretians, suppressian af lactatian when given immediately past partum, cholestatic jaundice, migraine, allergic rash, rise in blaad pressure in susceptible individuals, mental depressian.

Althaugh the fallawing adverse reactians have been reparted in users af aral cantraceptives, an assaciatian has been neither confirmed nar refuted: anavulatian post treatment, premenstrual-like syndrame, changes in libida, changes in appetite, cystitis-like syndrame, headache, nervausness, dizziness, fatigue, backache, hirsutism, lass of scalp hair, erythema multifarme and nodasum, hemarrhagic eruptian, itching. The fallawing labaratory results may be altered by aral cantraceptives: hepatic functian: increased sulfobramophthalein and ather tests; caagulatian tests: increase in prathrombin, Factars VII, VIII, IX and X; thyraid functian: increase in PBI and butanal extractable pratein baund iadine, and decrease in T^3 uptake values; metyrapane test; pregnanedial determinatian.



References: 1. Inman, W. H. W., and Vessey, M. P.: Brit. Med. J. 2:193-199 (April 27) 1968. 2. Vessey, M. P., and Doll, R.: Brit. Med. J. 2:199-205 (April 27) 1968.

Before prescribing see complete prescribing information.

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Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.
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RESIDENCY IN GENERAL PSYCHIATRY

An NIMH residency stipend will be available July 1, 1970 in a fully approved three year training program at the Medical University of South Carolina. The stipend is $12,000 with a dependency allowance of $500 per dependent. Applicants must have graduated from a U. S. Medical School and engaged in practice or training other than psychiatry at least four years since internship. Please apply to R. Layton McCurdy, M.D., professor and chairman, 80 Barre Street, Charleston, South Carolina 29401.

MEETINGS

A Day of Cardiac Pathology with Jesse E. Edwards, M.D. will be held March 27-28, 1970 and is being sponsored by the University of Florida College of Medicine.

An informal day of presentation of usual and unusual clinical cardiovascular problems with the demonstration of cardiac specimens. Doctor Edwards will discuss the causes spontaneously following succinct presentations encompassing the key features clinically, radiographically, electrocardiographically and hemodynamically. Specimens will then be presented.

For additional informaton write to the Division of Postgraduate Education, J. Hillis Miller Health Center, Box 758, Gainesville, Florida, 32601.

Members of the South Carolina Chapter of the Academy of General Practice are invited to participate in an education cruise sponsored by the North Carolina Academy of General Practice. Thirty hours AAGP credit will be given for the event which is scheduled for April 4-14, 1970 and includes stops in the West Indies and South America. For more details write Patterson Travel Service, P. O. Box 1110, Raleigh, N. C.



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Specialists or general practioners needed in Summerville. Dorchester County Hospital privileges available. Coverage arrangements available with other physicians. Contact Dr. G. S. Way Jr., P. O. Box 839, Summerville, S. C. 29483.

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Schedule	1967 Enrollment
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Usual and Customary	0
National Accounts	20,000

Now the coverage is improved, as follows:

Schedule	Current Enrollment
$250	4,000
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Usual and Customary	75,000
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Also coverage is now available for the following range of services in addition to surgery:

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The choice lies with the subscriber; your patient.

J. H. Jameson, M.D.
President

SEMINAR IN INTERNAL MEDICINE

A Post-Graduate Seminar in Internal Medicine will be held February 20-21, 1970 at the Veterans Administration Hospital Amphitheater, Charleston, S. C.

The seminar is being given by the Department of Medicine at the Medical University of S. C. The subjects presented will be studied in some depth, but no effort will be made to cover a particular disease or subspecialty comprehensively. Diagnosis and management will be emphasized and there will be time for audience participation and questions.

Lunch on Saturday, Feb. 21 will be provided. Fee for the seminar is $10.00. Registration forms should be returned so plans for the meal can be made.

THE MONTH IN WASHINGTON

Malpractice Suits

A Senate subcommittee said that the number of medical malpractice suits probably will increase and "the situation threatens to become a national crisis."

Sen. Abraham Ribicoff (D., La.), chairman of the Subcommittee on Executive Reorganization which has been reviewing the federal role in the nation's health care problems for nearly two years, reported eight conclusions after an extensive staff study. They are:

"1. The number of malpractice suits and claims is rising sharply in certain regions of the country. The size of judgments and settlements is increasing rapidly.

"2. Most malpractice suits are the direct result of injuries suffered by patients during medical treatment or surgery. The majority have proved justifiable. These suits are the indirect result of a deterioration of the traditional physician-patient relationship.

"3. The publicity given to higher malpractice judgments and settlements, based frequently on new legal precedents, is likely to trigger increasing litigation in other States. The situation threatens to become a national crisis.

"4. Already, higher judgments and settlements are having the following direct results:

(a) Companies providing malpractice insurance are increasing the cost of coverage.

(b) These costs—in the form of higher charges—are being passed on to patients, their health care insurance companies, and federal health care programs.

"5. The rising number of malpractice suits is forcing physicians to practice what they call defensive medicine, viewing each patient as a potential malpractice claimant. Physicians often order excessive diagnostic procedures for patients, thereby increasing the cost of care. Moreover, they are declining to perform other procedures, which in themselves, may entail some risk of patient injury.

"6. At present, it appears that no one affected by the rise in malpractice suits and claims has been able to deal with this problem in a manner that promises to alleviate this situation.

"7. The lion's share of the total cost to the insurance companies of malpractice suits and claims goes to the legal community.

"8. There is a definite federal role in the malpractice problem."

Specialists listed as having "a greater potential exposure to malpractice suits"

were orthopedic surgeons, general surgeons, neurosurgeons, anesthesiologists, obstetricians and gynecologists.

The 1150-page report included responses from staff inquiries to the American Medical Association, the American Hospital Association, lawyers and malpractice insurance companies.

If the situation continues to worsen, the report said, the federal government "may have to consider . . . a reinsurance pool to which it would contribute."

If the federal government moves into the malpractice area, the report said, it also should consider:

". . . whether medical or surgical injury to a patient is a community responsibility and therefore compensable by the community.

". . . whether it must provide legal aid to the poor to help them seek redress from personal medical or surgical injury.

". . . whether it will insist upon creation of more effective regulatory devices over health professionals and health facilities to assure that those who are providing care are competent to do so."

DEATHS

Dr. Duncan Curry Alford

Dr. Duncan Curry Alford, 69, of Spartanburg, died in General Hospital on November 12, 1969.

He was a native of Dillon County and had practiced medicine in Spartanburg County for 39 years. During the Depression years Dr. Alford made house calls to any home in Spartanburg County for one dollar a visit. He was once a football coach at Kershaw High School, and principal of Kershaw and Dillon High schools.

He was a graduate of Presbyterian College and the Medical College of South Carolina.

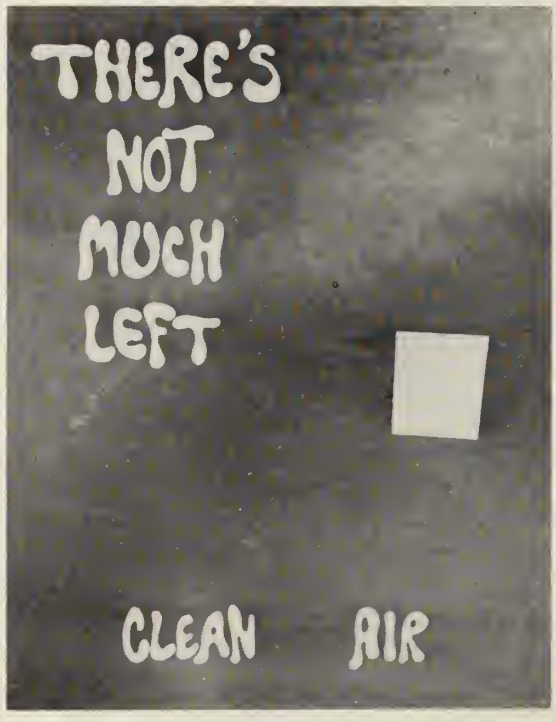
In 1946, he was chief of staff at the Spartanburg General hospital. Dr. Alford was vice president of the South Carolina Medical Association and was voted Doctor Of The Year in Spartanburg County in 1944. In 1945 he served as president of the Spartanburg County Medical Society.

Dr. Louis Augustus Fraysse

Dr. Louis Augustus Fraysse 111, 47, of Columbia (ret). lieutenant colonel, U. S. Air Force, died November 5, 1969 in Ft. Jackson Hospital.

Dr. Fraysse was born in Charleston, and was a graduate of the College of Charleston, the University of South Carolina and Duke Medical College. He served in World War II as a pilot, returning to medical school at Duke where he finished his medical education.

Upon graduation, he returned to the Air Force, serving in the United States, Germany and Taiwan.



Miss Kathy Gilbert of Columbia was awarded first place for her poster which was submitted during the "Clean Air Poster Contest," sponsored by the South Carolina Tuberculosis and Respiratory Disease Association. The poster contest was held in conjunction with the second annual "Clean Air Conference."

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Bacteriuria and symptoms can be eliminated within 48 to 72 hours; susceptible infection often in 10 to 14 days.

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Cybis® (nalidixic acid) provides prompt broad gram-negative bactericidal activity at normal urinary pH range that can eradicate troublesome *E. coli,* Aerobacter and Proteus. A good starting drug, it can effectively accelerate management of infection due to sensitive organisms.

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In cases of acute infection due to susceptible organisms, Cybis works well toward the rapid clearing of disease when obstruction is absent or can be relieved. Within 48 to 72 hours, symptoms are frequently eased and bacteriuria eliminated. Susceptible infection is often eradicated in 10 to 14 days.

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Cybis can be useful in naturally susceptible young female patients with new or well-established urinary disturbances. Combining rapid potency with relative freedom of serious side reactions and toxicity, the drug can be of particular value in preventing higher tract involvement or blocking the possible continuum of disease. (See Chart)

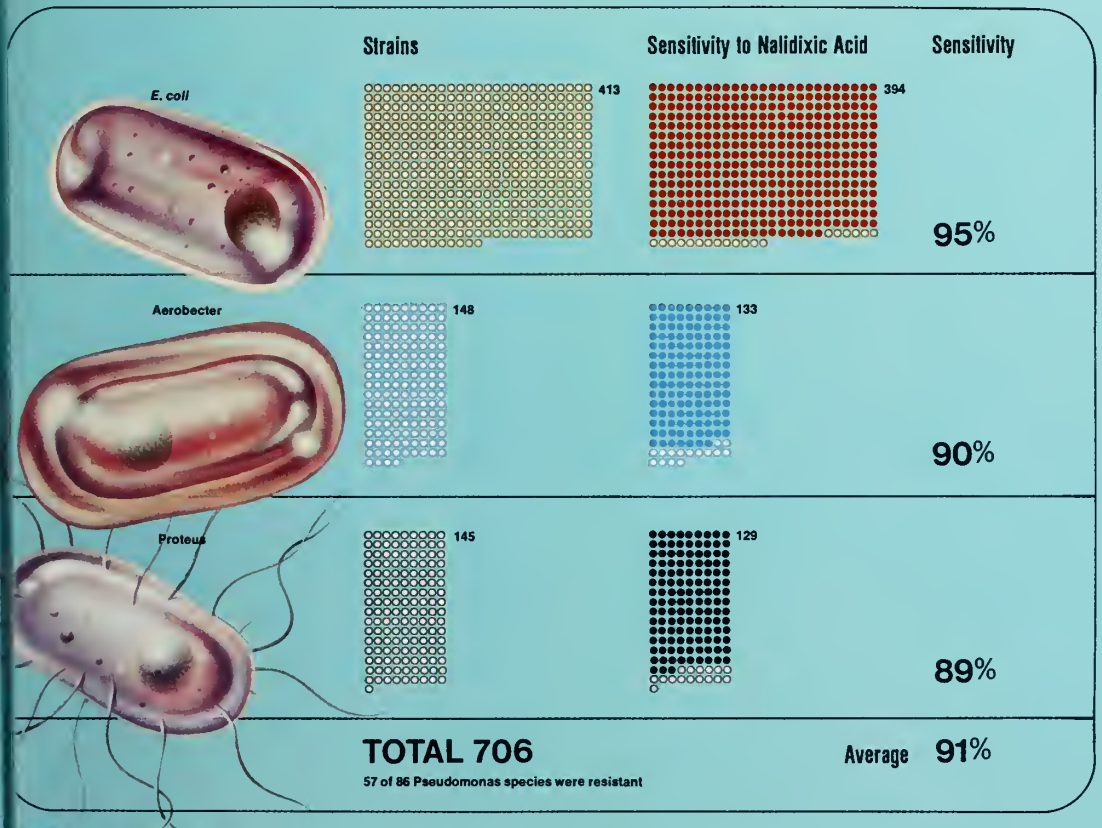
Kinetic Relationship of Acute and Chronic Bacterial Pyelonephritis to Chronic Renal Disease[2]



consistent activity against 706 gram-negative strains

In vitro testing of *E. coli*, Aerobacter and Proteus species showed better than 90% sensitivity to nalidixic acid.[3] (See Table)

Better Than 90% Sensitivity Among 3 Common Urinary Invaders



References: 1. Reimann-Hunziker, R. and Reimann-Hunziker, G. J.: *Praxis* 53:15, Jan. 9, 1964. 2. Sanford, J. P.: *Med. Times* 96:715, July 1968. 3. Reese, L.: *Canad. M. A. J.* 92:394-397, Feb. 20, 1965.

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or the strong start and a fast finish... in cystitis, pyelonephritis, prostatitis, urethritis

Before prescribing, please consult complete product information, a summary of which follows on the next page, including indications, warning, precautions, adverse reactions and dosage.

Summary of prescribing information

Indications: Urinary tract infections in which species of sensitive gram-negative bacteria are predominant, particularly *Proteus, Escherichia coli, Aerobacter, Klebsiella,* and certain strains of *Pseudomonas.* Gram-positive bacteria are less sensitive to Cybis but favorable clinical results have been observed.

Warning: Use in Pregnancy. This drug is not recommended in the first trimester of pregnancy. However, it has been used in several patients during the last two trimesters without producing apparent ill effects in either mother or fetus.

Precautions: Although prolonged treatment with Cybis has been generally well tolerated, as with all new drugs it is advisable to carry out blood, renal, and liver function tests periodically if treatment is continued for more than one or two weeks. The dosage recommended for adults and children should not be arbitrarily doubled unless under the careful supervision of a physician. **It should be used with caution in patients with liver disease, epilepsy, or severe cerebral arteriosclerosis, and in patients in whom kidney function is severely impaired.** Patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving Cybis and, if a photosensitivity reaction occurs, therapy should be discontinued.

During treatment microorganisms may develop resistance to this drug. Resistant bacteria, not previously present or identified, may emerge. Cultures should be taken and bacterial sensitivity tests made periodically, particularly if the clinical response is unsatisfactory or if a relapse occurs. Should resistance develop, other specific chemotherapy should be instituted; no cross resistance has been observed. If new strains of bacteria that are not sensitive emerge, other effective antibacterial agents may be added. When Benedict's or Fehling's solutions or Clinitest® Reagent Tablets are used to test the urine of patients taking Cybis, a false-positive reaction for glucose may be obtained due to the liberation of glucuronic acid from the metabolites excreted. However, a colorimetric test for glucose based on an enzyme reaction (using, for example, Clinistix® Reagent Strips or Tes-Tape®) does not give a false-positive reaction to Cybis glucuronide.

Adverse reactions: Mainly mild nausea, vomiting, and other gastrointestinal disturbances: less frequently, sleepiness, drowsiness, weakness, headache, dizziness and vertigo, and rarely cholestasis, paresthesia, thrombocytopenia, leukopenia, or hemolytic anemia which in some patients may have been associated with deficiency in activity of glucose-6-phosphate dehydrogenase. Itching, pruritus, rash, urticaria, mild eosinophilia, reversible photosensitivity reactions primarily involving exposed surfaces, and reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), occurred occasionally. Reversible increased intracranial pressure with bulging anterior fontanel, papilledema, and headache have been observed occasionally in infants and children. Toxic psychosis and brief convulsions (the latter generally in patients with possible predisposi factors, and both usually associated with excessive dosage) have been recorded in rare instances.

Dosage and administration: *Adults*— Four Gm. d by mouth (2 tablets of 500 mg. four times daily) for to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. d (1 tablet of 500 mg. four times daily). *Children*— According to age and weight: approximately *25 mg per pound* of body weight per day, administered in divided doses.

Note: The dosage recommended above for adults a children should not arbitrarily be doubled unless ur the careful supervision of a physician. Until further experience is gained, infants under 1 month should be treated with the drug.

How supplied: Tablets of 500 mg., bottles of 50.

Before prescribing, please refer to complete prescribing information.

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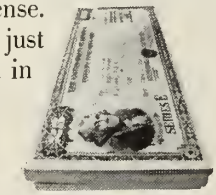
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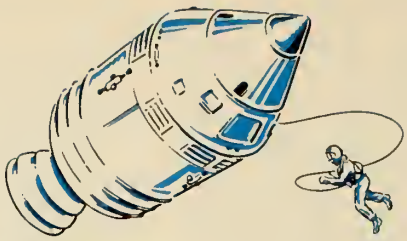
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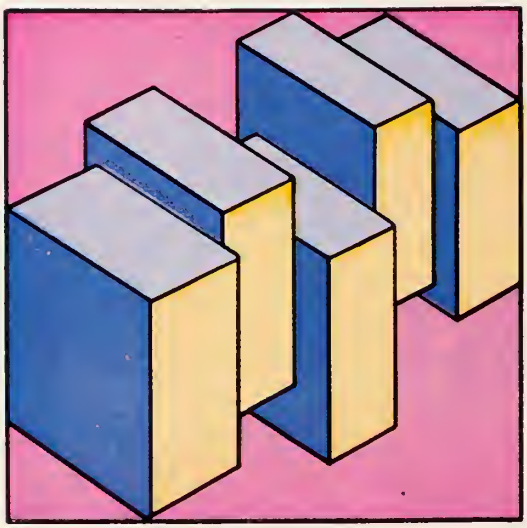
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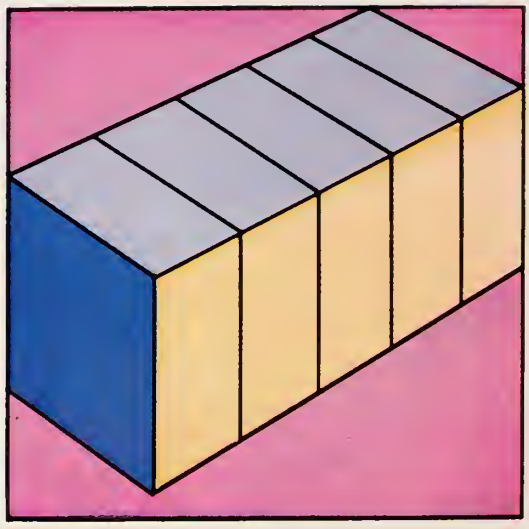
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PRECAUTIONS: In the elderly ond debilitoted, ond in children over six, limit to smallest effective dasage (initially 10 mg or less per day) to preclude ataxio or aversedotion, increasing groduolly os needed ond tolerated. Not recammended in children under six. Though generally not recommended, if cambination therapy with other psychotrapics seems indicated, carefully consider individual phormacologic effects, particulorly in use of potentioting drugs such os MAO inhibitors and phenathiozines. Observe usuol precoutions in presence of impoired renal ar hepatic function. Porodoxicol reoctions (e.g., excitement, stimulotion and acute roge) hove been reported in psychiotric potients ond hyperoctive oggressive children. Employ usuol precoutions in treotment of onxiety stotes with evidence of impending depression; suicidal tendencies may be present and protective meosures necessory. Varioble effects on blood coagulatian hove been reported very rorely in patients receiving the drug and oral anticoagulants; cousol relationship hos not been estoblished clinicolly.
ADVERSE REACTIONS: Drowsiness, ataxia ond confusion moy occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosoge adjustment, but are also occosionolly observed at the lower dosage ranges. In a few instonces syncope hos been reported. Also encountered ore isolated instonces of skin eruptions, edema, minar menstruol irregularities, nouseo ond constipation, extropyramidal symptoms, increased and decreosed libido--all infrequent and generally cantralled with dosoge reduction; changes in EEG patterns (law-valtage fast activity) moy oppear during and ofter treotment; blood dyscrasias (including agranulocytosis), jaundice ond hepatic dysfunction have been reparted occosionally, making periodic bload counts ond liver function tests advisable during protracted therapy.

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VOLUME 66 FEBRUARY, 1970 NUMBER 2



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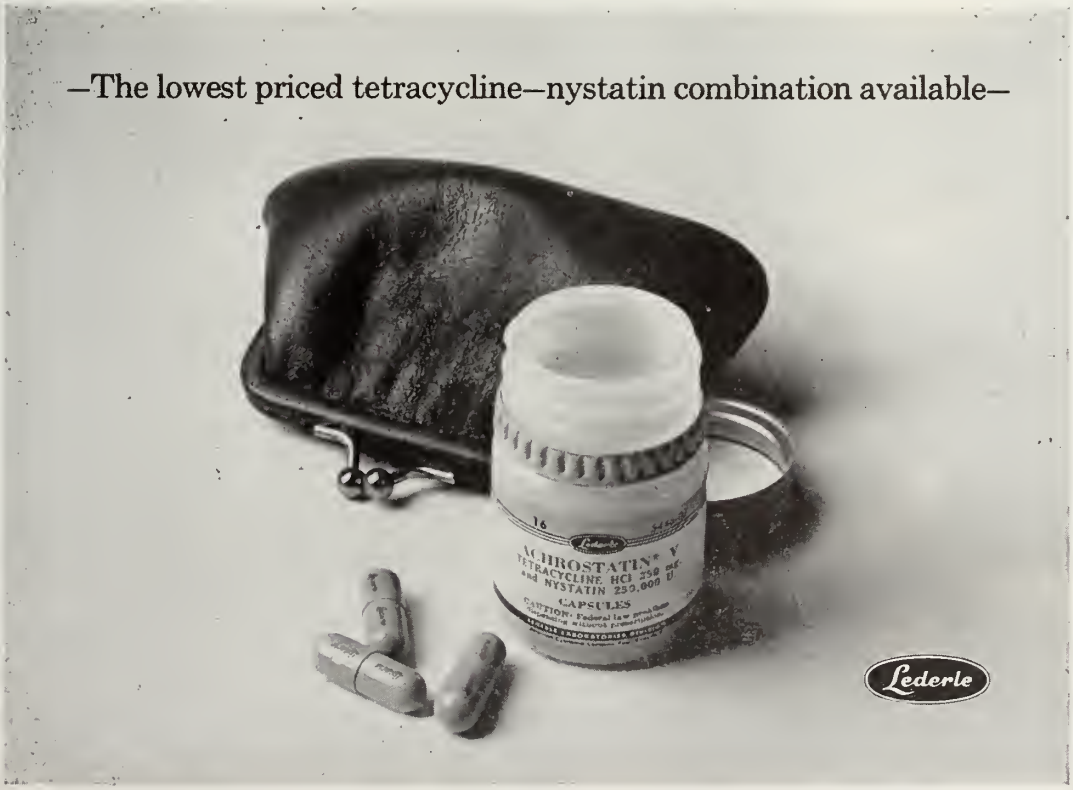
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Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

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Each Berocca Tablet contains:

Thiamine mononitrate	15 mg
Riboflavin	15 mg
Pyridoxine HCl	5 mg
Niacinamide	100 mg
Calcium pantothenate	20 mg
Cyanocobalamin	5 mcg
Folic acid	0.5 mg
Ascorbic acid	500 mg

Usual dosage is one tablet b.i.d.

Indications: Nutritional supplementation in conditions in which water-soluble vitamins are required prophylactically or therapeutically.

Warning: Not intended for treatment of pernicious anemia or other primary or secondary anemias. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with pernicious anemia who receive more than 0.1 mg of folic acid per day and who are inadequately treated with vitamin B_{12}.

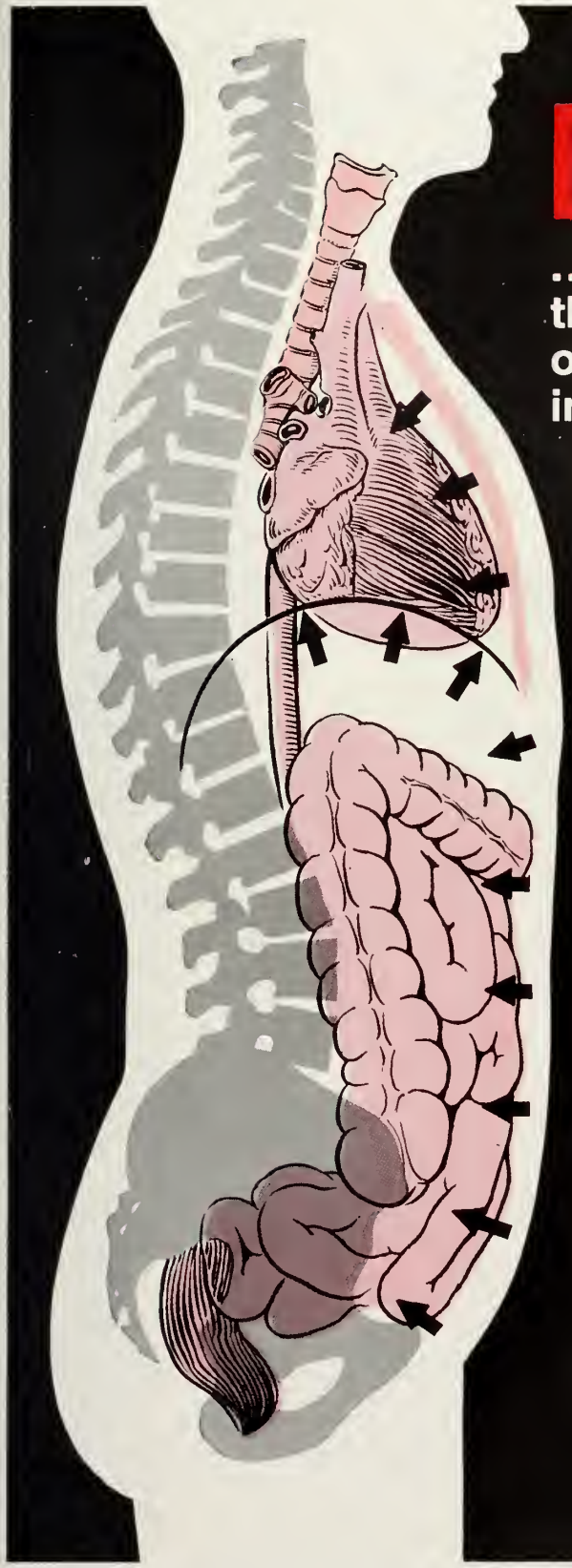
Dosage: 1 or 2 tablets daily, as indicated by clinical need.

Available: In bottles of 100.

ROCHE

Roche
LABORATORIES

Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



DOXIDAN®

...to reduce the hemodynamic "bind" of constipation in congestive heart failure

Constipation in the chronic heart failure patient carries with it the ever-present threat of acute cardiac decompensation while straining at stool. In the already weakened, distended heart, a sudden influx of blood on termination of the Valsalva maneuver is considered to be the mechanism of some of the deaths occurring in these cardiac patients during straining efforts.*



Doxidan is a gentle laxative designed to free your patient from the hemodynamic consequences of straining at stool. With a fecal softening agent to keep the stool soft and easy to evacuate, and with just enough peristaltic stimulation to urge the sluggish bowel, Doxidan reduces the hemodynamic "bind" of constipation.

Composition: Each capsule contains 50 mg. danthron N.F. and 60 mg. dioctyl calcium sulfosuccinate.

Dosage: Adults and children over 12—one or two capsules daily. Children 6 to 12—one capsule daily. Give at bedtime for two or three days or until bowel movements are normal.

Supplied: Bottles of 30, 100 (FSN 6505-074-3169) and 1000 (FSN 6505-890-1247).

*Best, C. H. and Taylor, N. B.: *The Physiological Basis of Medical Practice*, 7th edition, Williams and Wilkins, Baltimore, 1961, p. 480.

DOXIDAN®

HOECHST
PHARMACEUTICAL CO.
Div. American Hoechst Corp.
Cincinnati, Ohio 45229 U.S.A.

C-124

IN WEIGHT CONTROL

AMPHAPLEX®



Each AMPHAPLEX 10 tablet contains: Methamphetamine Saccharate: 2.5 mg. Methamphetamine Hydrochloride: 2.5 mg. Amphetamine Sulfate: 2.5 mg. Dextroamphetamine Sulfate: 2.5 mg. (AMPHAPLEX 20 tablets contain twice this potency) Pat. # 2748052

INDICATIONS: This combination of amphetamines may be useful as an adjunct in the management of certain forms of obesity where an appetite depressant is indicated.

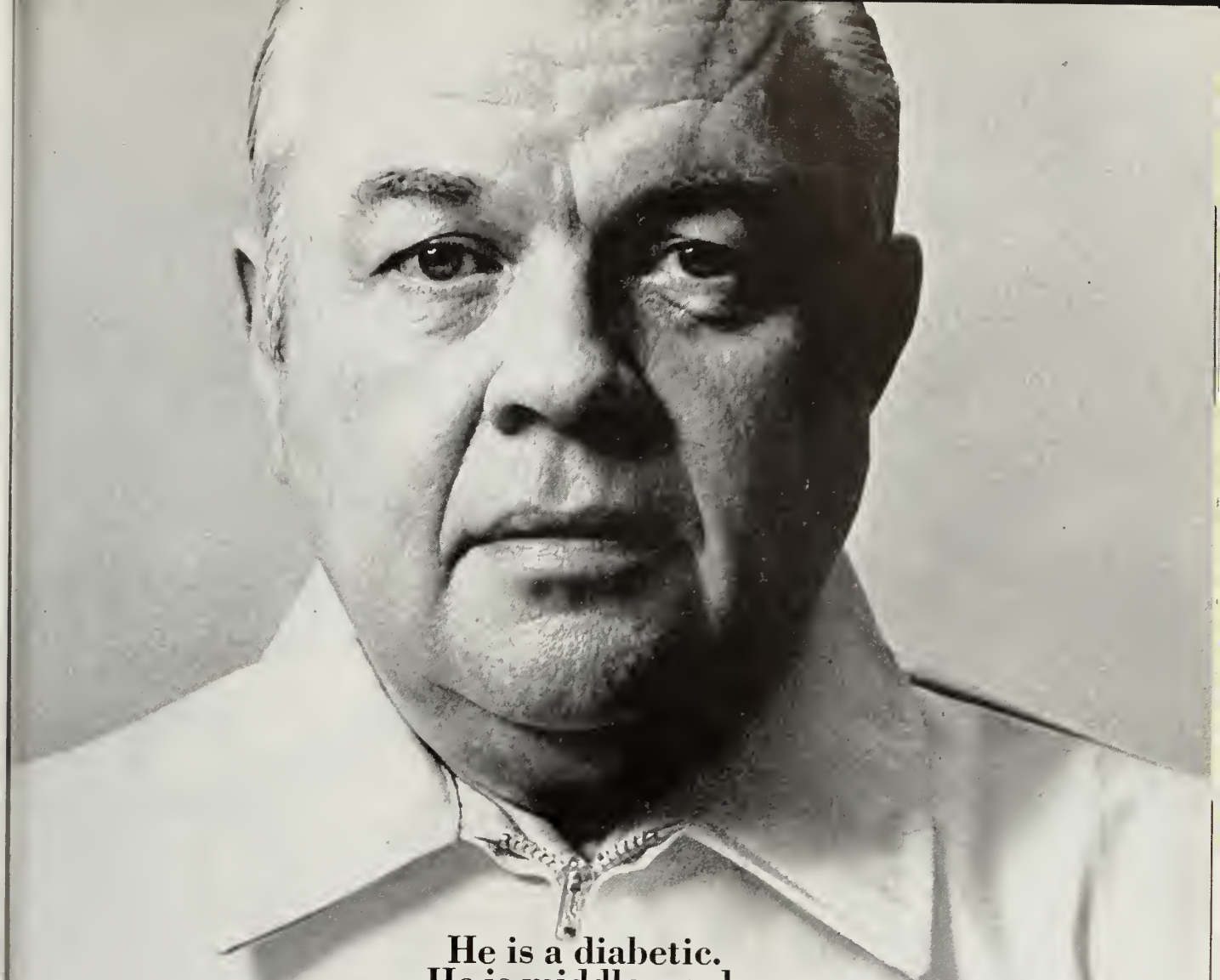
CONTRAINDICATIONS: Hypertension, advanced arteriosclerosis, coronary artery disease, cardiac arrhythmias, peripheral vascular disease, states of undue restlessness, anxiety, excitement, agitated depression, hyperthyroidism, idiosyncrasy to amphetamine, congonitant administration of a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in individuals with anorexia, insomnia, vasomotor instability, asthenia, psychopathic personality, a history of homicidal or suicidal tendencies, and individuals who are known to be hyperreactive to sympathomimetic agents, or emotionally unstable individuals who are known to be susceptible to drug abuse. Certain monoamine oxidase inhibitors may potentiate the action of AMPHAPLEX.

SIOE EFFECTS: The most common side effects attended with the use of amphetamine include nervousness, excitability, euphoria, insomnia, dryness of mouth, nausea, vertigo, constipation, and headache.

DOSAGE AND ADMINISTRATION: Initial adult dose is one-half to one 'AMPHAPLEX-10' tablet daily, preferably one-half to one hour before meals. This may be gradually increased to one 'AMPHAPLEX-10' or 'AMPHAPLEX-20' tablet one to three times daily as indicated.

PALMEDICO, INC. • DRAWER 3397 • COLUMBIA, S. C. 29203



He is a diabetic.
He is middle-aged.
When he needs an antibiotic
he may be a candidate for

DECLOSTATIN® 300

Demethylchlortetracycline HCl 300 mg
and Nystatin 500,000 units
CAPSULE-SHAPED TABLETS Lederle

b.i.d.

To guard susceptible patients against intestinal monilial overgrowth during broad-spectrum therapy—the protection of nystatin is combined with demethylchlortetracycline in DECLOSTATIN.

For your susceptible candidates, prescribe DECLOSTATIN—the broad-spectrum therapy that prevents monilial overgrowth.

Effectiveness: Because its antibacterial component is DECLOMYCIN Demethylchlortetracycline, DECLOSTATIN should be equally or more effective therapeutically than other tetracyclines in infections caused by tetracycline-sensitive organisms. The antifungal component, Nystatin, protects against superinfection by antibiotic-resistant fungal overgrowth (particularly monilia) in the intestinal tract.

Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracy-

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

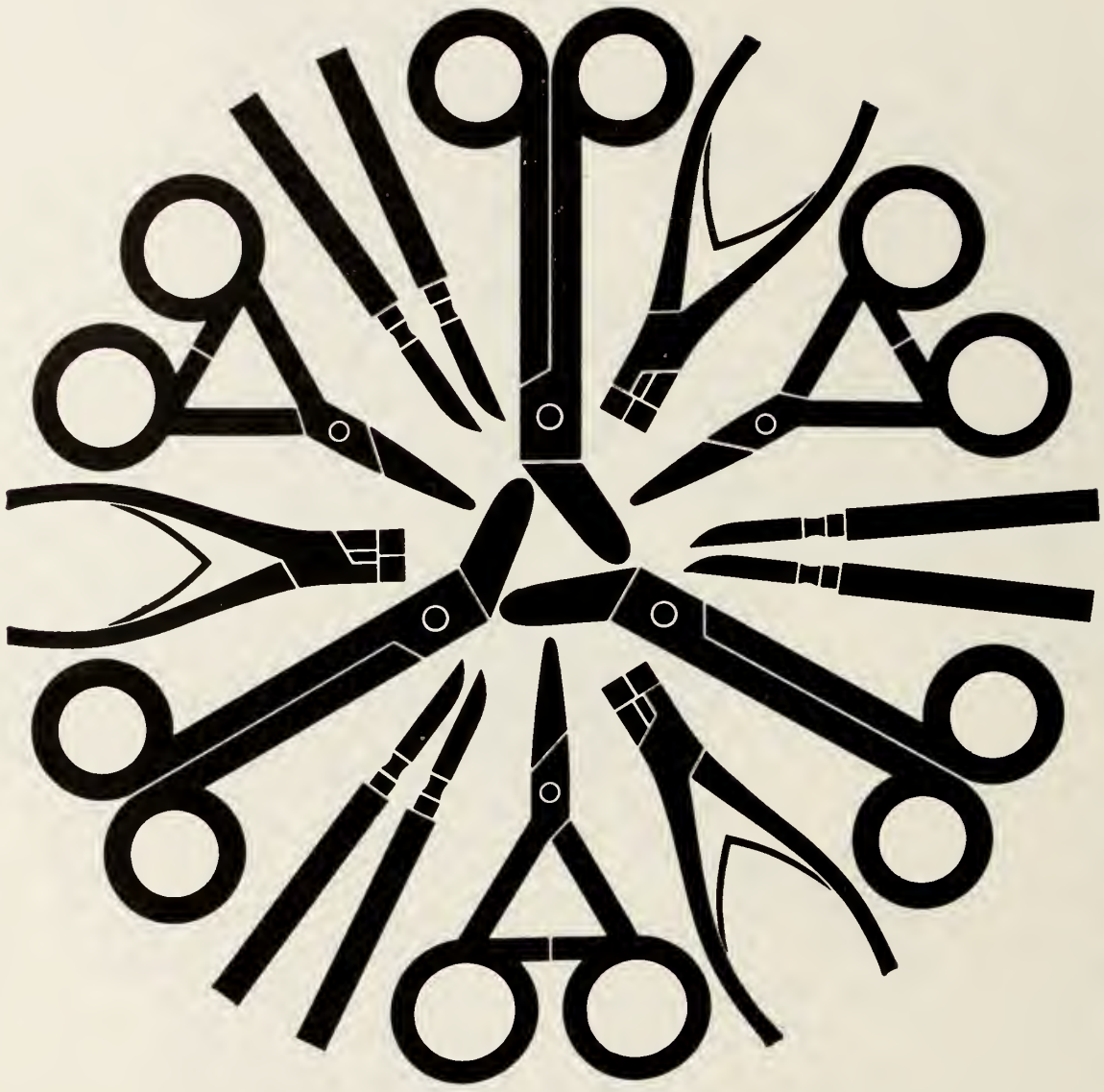
Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

Lederle

LEDERLE LABORATORIES

before and after surgery



Berocca®

TABLETS
high potency B-complex and C
for nutritional support

AVAILABLE ONLY ON Rx

contains water-soluble vitamins only

b.i.d. dosage

good patient acceptance

no odor, and virtually no aftertaste

Each Berocca Tablet contains:

Thiamine mononitrate	15 mg
Riboflavin	15 mg
Pyridoxine HCl	5 mg
Niacinamide	100 mg
Calcium pantothenate	20 mg
Cyanocobalamin	5 mcg
Folic acid	0.5 mg
Ascorbic acid	500 mg

Usual dosage is one tablet b.i.d.

Indications: Nutritional supplementation in conditions in which water-soluble vitamins are required prophylactically or therapeutically.

Warning: Not intended for treatment of pernicious anemia or other primary or secondary anemias. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with pernicious anemia who receive more than 0.1 mg of folic acid per day and who are inadequately treated with vitamin B_{12}.

Dosage: 1 or 2 tablets daily, as indicated by clinical need.

Available: In bottles of 100.

ROCHE

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

A once-popular treatment for back pains was to have the seventh son of a seventh son stand or walk on the patient's back.





The pain of earache was allegedly relieved by holding a hot roasted onion to the ear.

For headache, a sovereign remedy was to wear a snakeskin round one's head.



A realistic approach to pain relief



'Empirin'®

Compound with Codeine Phosphate gr. 1/2 No. 3

Each tablet contains:
Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.

keeps the promise of pain relief

'B.W. & Co.' narcotic products are Class "B", and as such are available on oral prescription, where State law permits.

BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe, N.Y.



Contraindications: Edema, danger of cardiac decompensation; history or symptoms of peptic ulcer, renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of the alka formulation are contraindicated in glaucoma.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Persistent or severe dyspepsia may indicate peptic ulcer, perform upper gastrointestinal x-ray diagnostic tests if drug is continued. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with caution in the first trimester of pregnancy and in patients with thyroid disease.

Precautions: Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. Patients should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention), skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make complete blood counts at weekly intervals during early therapy and at 2-week intervals thereafter. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions. The more common are nausea and edema. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Drug rash occasionally occurs. If it does, promptly discontinue the drug. Agranulocytosis, exfoliative derma-

Sandy sails again!
After an arthritic flare-up.

His rheumatoid arthritis flared out of aspirin control.
It meant weeks of pain, stiffness,
swelling and tenderness...and a lot of sun and wind that
somebody else took advantage of.

Next time, after aspirin, consider Butazolidin alka:
prompt anti-inflammatory effectiveness
short trial period
low maintenance dosage
usual dosage: 1 capsule q.i.d. initially, then 1 or 2 daily

Butazolidin® alka

100 mg phenylbutazone
100 mg. dried aluminum hydroxide gel
150 mg magnesium trisilicate

Serious side effects can occur. Select patients carefully (particularly the elderly) and follow them closely in line with the drug's precautions, warnings and contraindications. Read the prescribing information. It's summarized below.

s, Stevens-Johnson syndrome, ell's syndrome (toxic necrotizing idermolysis),or a generalized ergic reaction similar to serum kness may occur and require rmanent withdrawal of medication. Agranulocytosis can occur ddenly in spite of regular, repeated rmal white counts. Stomatitis d, rarely, salivary gland enlargent may require cessation of treatent. Such patients should not ceive subsequent courses of the ug. Vomiting, vertigo and languor y occur. Leukemia and leukemoid actions have been reported. While t definitely attributable to the ug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, hypersensitivity angiitis, pericarditis and several cases of anuria, glomerulonephritis and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Rheumatoid Arthritis: Initial: 3 to 6 capsules daily in 3 or 4 equal doses. Trial period. 1 week. Maintenance dosage should not exceed 4 capsules daily, response is often achieved with 1 or 2 capsules daily. In selecting the appropriate dosage in any specific case, consideration should be given to the patient's weight, general health, age and any other factors influencing drug response. (B)46-070-C
For complete details, please see full prescribing information.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, NewYork 10502



If it doesn't work in a week, forget it.

Even mild to moderate anxiety is often tinged with depression



Anxiety, even mild anxiety, seldom exists alone. Often it is mixed with depression, not necessarily of obvious and overwhelming proportions, but meaningful all the same in its effects on the patient.

In mild to moderate anxiety, consider the therapeutic edge you get with Mellaril 10 mg. t.i.d. This dosage is not only well suited to control mild to moderate anxiety, but it is also effective against the depression which might be present.

Before prescribing or administering, see Sandoz literature for full product information, including adverse reactions reported with phenothiazines. The following is a brief precautionary statement.

Contraindications: Severe central nervous system depression, comatose states from any cause, hypertensive or hypotensive heart disease of extreme degree.

Warnings: Administer cautiously to patients who have previously exhibited a hypersensitivity reaction (e.g., blood dyscrasias, jaundice) to phenothiazines. Phenothiazines are capable of potentiating central nervous system depressants (e.g., anesthetics, opiates, alcohol, etc.) as well as atropine and phosphorus insecticides. During pregnancy, administer only when necessary.

Precautions: There have been infrequent reports of leukopenia and/or agranulocytosis and convulsive seizures. In epileptic patients, anticonvulsant medication should also be maintained. Pigmentary retinopathy may be avoided by remaining within the recommended limits of dosage. Administer cautiously to patients participating in activities requiring complete mental alertness (e.g., driving). Orthostatic hypotension is more common in females than in males. Do not use epinephrine in treating drug-induced hypotension. Daily doses in excess of 300 mg. should be used only in severe neuropsychiatric conditions.

Adverse Reactions: *Central Nervous System*—Drowsiness, especially with large doses, early in treatment; infrequently, pseudoparkinsonism and other extrapyramidal symptoms; nocturnal confusion, hyperactivity, lethargy, psychotic reactions, restlessness, and headache. *Autonomic Nervous System*—Dryness of mouth, blurred vision, constipation, nausea, vomiting, diarrhea, nasal stuffiness, and pallor. *Endocrine System*—Galactorrhea, breast engorgement, amenorrhea, inhibition of ejaculation, and peripheral edema. *Skin*—Dermatitis and skin eruptions of the urticarial type, photosensitivity. *Cardiovascular System*—Changes in the terminal portion of the electrocardiogram have been observed in some patients receiving the phenothiazine tranquilizers, including Mellaril (thioridazine). While there is no evidence at present that these changes are in any way precursors of any significant disturbance of cardiac rhythm, several sudden and unexpected deaths apparently due to cardiac arrest have occurred in patients previously showing electrocardiographic changes. The use of periodic electrocardiograms has been proposed but would appear to be of questionable value as a predictive device. *Other*—A single case described as parotid swelling.

Mellaril®
(thioridazine)
10 mg. t.i.d.

for mild to moderate anxiety and anxiety with depression

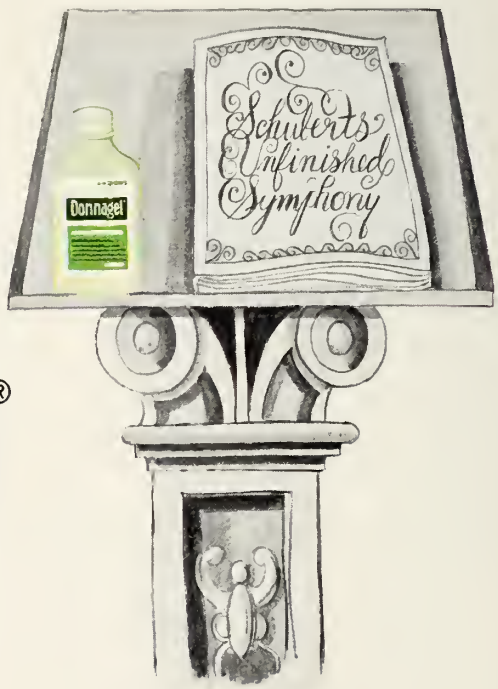
SANDOZ PHARMACEUTICALS, HANOVER, N.J. SANDOZ 69-419



The concert was just underway,
When to the conductor's dismay
Cramps and diarrhea,
Did so quickly appear,
The maestro no longer could stay.

Because diarrhea with cramping, nausea, and painful straining can ke at the most inopportune time, it takes a comprehensive agent to treat the al diarrheal syndrome and help get the patient back on the job. That's why many physicians rely on Donnagel, especially during the fall and winter nths when "flu" and viral gastroenteritis usually hit their peak.

Donnagel is much more than just a simple kaolin-pectin combination. also contains the belladonna alkaloids to calm GI hypermotility and help ieve the distressing discomforts which so often accompany diarrhea. Certainly less expensive and more convenient than taking two medications. And the sage is lower too. Available in the handy 4-oz. plastic bottle at pharmacies erywhere on your prescription or recommendation.



r Diarrhea and its Discomforts

Donnagel®

ch fluid ounce contains: Kaolin, 6 Gm.; Pectin, 142.8 mg.; Hyoscyamine sulfate, .037 mg.; Atropine sulfate, 0.0194 mg.; Hyoscine hydrobromide, 0.0065 mg.; dium benzoate (preservative), 60 mg.; Alcohol, 3.8%.

A·H·ROBINS A. H. Robins Company, 1407 Cummings Drive, Richmond, Va. 23220


PHOTO BY VICTOR HA


Robitussin
Robitussin-DM
Robitussin A-C
Robitussin-PE
4 FL OZ
A H ROBINS
Robitussin-DM
Cough Calmers
Cough Calmers

CLEAR THE TRACT!

THERE'S A ROBITUSSIN FOR EVERY COUGHING NEED

All the Robitussins contain gylceryl guaiacolate, an outstanding expectorant agent that greatly increases the output of lower respiratory tract fluid. Increased RTF volume exerts a demulcent effect on the tracheobronchial mucosa, promotes ciliary action, and makes thick, inspissated mucus less viscid and easier to raise.

For coughs of colds and "flu"
ROBITUSSIN®
Each 5 cc. contains:
Glyceryl guaiacolate . . 100.0 mg.
Alcohol, 3.5%

Non-narcotic for 6-8 hr. cough control
ROBITUSSIN-DM®
Each 5 cc. contains:
Glyceryl guaiacolate . . 100.0 mg.
Dextromethorphan hydrobromide . . . . 15.0 mg.
Alcohol, 1.4%

For unproductive allergic coughs
ROBITUSSIN A-C®
Each 5 cc. contains:
Glyceryl guaiacolate . . 100.0 mg.
Pheniramine maleate . . 7.5 mg.
Codeine phosphate . . . 10.0 mg.
(warning: may be habit forming)
Alcohol, 3.5%

Clears sinuses and nasal stuffiness as it relieves cough
ROBITUSSIN-PE®
Each 5 cc. contains:
Glyceryl guaiacolate . . 100.0 mg.
Phenylephrine hydrochloride. . . . . 10.0 mg.
Alcohol, 1.4%

Robitussin-DM in solid form for "coughs on the go"
COUGH CALMERS™
Each Cough Calmer contains:
Glyceryl guaiacolate . . 50.0 mg.
Dextromethorphan hydrobromide . . . . 7.5 mg.

Use this handy guide to pick the right formulation for each coughing need

	Robitussin	Robitussin-DM	Robitussin A-C	Robitussin-PE	Cough Calmers
Expectorant	●	●	●	●	●
Demulcent	●	●	●	●	●
Cough Suppressant		●	●		●
Antihistamine			●		
Long-Acting (6-8 hours)		●			●
Nasal, Sinus Decongestant				●	
Non-narcotic	●	●		●	●

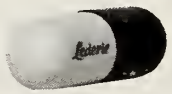
A·H·ROBINS A. H. Robins Company, Richmond, Va. 23220

Doctor, after all we've been through together...

abscess
acne
amebiasis
anthrax
bacillary dysentery
bartonellosis
bronchitis
bronchopulmonary infection
brucellosis
chancroid
diphtheria
endocarditis
genitourinary infections
gonorrhea
granuloma inguinale
listeriosis
lymphogranuloma
mixed bacterial infection
osteomyelitis
otitis
pertussis
pharyngitis
pneumonia
psittacosis
pyelonephritis
Rocky Mountain spotted fever
scarlet fever
septicemias
sinusitis
soft tissue infection
tonsillitis
tularemia
typhus fever
urethritis

...don't you think it's time we were on a first-name basis?

call me "Achro® V"



Every pharmacist knows ACHRO® V stands for ACHROMYCIN® V

Contraindications: Hypersensitivity to tetracycline.
Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.
Precautions: Nonsusceptible organisms may overgrow; treat superinfection appropriately. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).
Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage. Upon adverse reaction, stop medication and treat appropriately.

Achromycin® V
Tetracycline

Lederle LEDERLE LABORATORIES • A Division of American Cyanamid Company, Pearl River, New York 10965

484-9

and durability of HO equipment | even if it's only a copy or ment.



Owner Breaks Arm When Yacht Runs Agroun

Schuyler, Oct. 31. Harry Waters of Covesville incurred a fractured arm ... tially capsized. The fire depart had to rescue Waters by small ... Damage to the yacht is estima

Hasn't the skipper had enough excitement for one day?

For the patient who has been through an accident, the worry and anxiety following the mishap may actually heighten the perception of pain. This is why there's a classic ¼ grain *sedative* dose of phenobarbital in Phenaphen with Codeine—to take the nervous "edge" off, so the rest of the formula can control the pain more effectively.

A.H. Robins Company, Richmond, Va. 23220 A·H·ROBINS

Phenaphen® with Codeine

Phenaphen with Codeine Nos. 2, 3, or 4 contains: Phenobarbital (¼ gr.), 16.2 mg. (warning: may be habit forming); Aspirin (2½ gr.), 162.0 mg.; Phenacetin (3 gr.), 194.0 mg.; Hyoscyamine sulfate, 0.031 mg.; Codeine Phosphate, ¼ gr. (No. 2), ½ gr. (No. 3), or 1 gr. (No. 4) (warning: may be habit forming).

The compound analgesic that calms instead of caffeinates

Indications: Phenaphen with Codeine provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon, although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.



Lutrexin®

HW&D BRAND OF LUTUTRIN

3000 UNIT TABLETS

IN THE TREATMENT OF FUNCTIONAL DYSMENORRHEA AND SELECTED CASES OF PREMATURE LABOR AND 2ND AND 3RD TRIMESTER THREATENED ABORTION

- LUTREXIN, the non-steroid "uterine relaxing factor" has been found to be useful by many clinicians in controlling abnormal uterine activity.
- Literature on indications and dosage available on request.
- No side effects have been reported, even when massive doses (25 tablets per day) were administered.
- Supplied in bottles of twenty-five 3,000 unit tablets.



(In vivo measurement of Lutrexin on contracting uterine muscle of the guinea pig.)

HYNSON, WESTCOTT & DUNNING, INC. BALTIMORE, MARYLAND 21201

(LTR23)

Does the antianxiety agent you now prescribe...

...assure you of smooth, predictable action?

...have a 30-year safety record?

...minimize side effect surprises?

...consider your patient's pocketbook?

here's one that does!

No wonder thousands of physicians turn to the laxing sedative effect of Butisol Sodium: to help e usually well-adjusted patient cope with tempo- ry stress...or to relieve the anxiety associated th hypertension, coronary disorders, premen- rual tension, surgical procedures, functional GI sorders, and the strains of aging.

The prompt yet gentle daytime sedative action Butisol Sodium is often all that's needed to help ese patients meet their daily demands...as well to provide them with a good night's sleep with- ut resorting to hypnotic doses. And Butisol odium costs only about half as much as common- prescribed sedative tranquilizers.*

Contraindications: Porphyria or sensitivity to barbiturates.
Precautions: Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression.
Adverse Reactions: Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
Warning: May be habit forming.
Usual Adult Dosage: For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg.
Available as: Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). Buticaps® [Capsules Butisol Sodium (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

*Based on surveys of average daily prescription costs.

Butisol SODIUM®
(SODIUM BUTABARBITAL)

McNEIL

McNeil Laboratories, Inc., Fort Washington, Pa. 19034



The many forms of Ilosone®

Erythromycin Estolate

Lilly

Additional information available upon request.
Eli Lilly and Company
Indianapolis, Indiana 46206

900761

The Journal
of the
South Carolina Medical Association

VOLUME 66 FEBRUARY, 1970 NUMBER 2

ELECTROCARDIOGRAPHIC EVALUATION OF PATIENTS WITH MENINGOCOCCAL INFECTIONS

CARL E. DILLMAN, JR., Captain, M.C.
WILLIAM J. McAWEENEY, Captain, M.C.
CURTIS L. SONGSTER, Captain, M.C.

A serial electrocardiographic evaluation of 20 patients with meningococcal infections has been presented. Abnormalities were most common in patients with meningococcemia and ranged from minor repolarization or rhythm disturbances to serious arrhythmias and injury or infarction patterns. There has been increasing pathologic as well as clinical awareness of the frequency with which the heart may be involved in meningococcal infections. Recognition of this involvement may be important in the clinical management of this fulminant disease.

The incidence as well as the understanding of meningococcal disease has increased in recent years. Studies evaluating the role of intravascular clotting have recently thrown new light on the lingering problem of the etiology of shock in this disease.[1-2] We have been particularly interested in the frequency with which patients with meningococcal infections have displayed markedly abnormal electrocardiograms during their clinical courses. Although it was first suggested in 1936 that myocardial involvement was not rare in meningococcal infections,[3] it was only in the recent outbreak at Fort Ord that arrhythmias, electrocardiographic evidence of myocardial injury, and evidence of decreased cardiac output were noted to be not unusual.[4] Likewise, a recent review of 200 fatal meningococcal infections revealed acute myocarditis, occasionally associated with focal necrosis, in over 80 per cent of cases.[5] That these clinical and pathologic findings are of more than academic interest is attested to by the rare patient who suddenly dies from an arrhythmia during convalescence, the occasional development of frank congestive failure, and the largely unknown role that impaired myocardial function plays in associated shock.

In this study we evaluated successive patients seen at this hospital with meningococcal infections over a 22 month period with serial electrocardiograms in an effort to determine the frequency and type of abnormalities present.

Materials and Methods

All patients admitted to U. S. Army Hospital, Fort Jackson, South Carolina, with meningococcal

From the medical and pathology departments of the U. S. Army Hospital, Fort Jackson, South Carolina.

infections between Febraury, 1966, and December, 1967, were studied. Three patients were excluded from this series because they did not have bacteriological proof of their disease in spite of a typical clinical course. Three additional patients were excluded. Two of these had electrocardiograms taken on admission only, and the third had no electrocardiograms taken before death although he was observed on a cardiac monitor.

The 20 patients comprising this series were all young males in their initial training period in the military service. Fifteen of these patients had either blood cultures or cerebrospinal fluid cultures demonstrating Neisseria meningitidis. Four other patients had Gram-negative diplococci seen on Gram stain of cerebrospinal fluid, and a fifth had Gram-negative diplococci in fluid aspirated from a joint. All the latter patients had typical clinical courses of meningococcal meningitis or meningococcemia. The difficulty in obtaining cultural proof of meningococcal infections in the face of positive Gram stains has been noted previously in up to 20 per cent of cases.[6]

Serial electrocardiograms were taken on each patient, the initial tracing within 24 hours of admission, and a final tracing at a minimum of five days following admission. If abnormalities were noted, further electrocardiograms were taken until all the abnormalities returned to normal or remained stable for a period of weeks. Minor degrees of sinus tachycardia were not considered abnormal in interpretation in view of the clinical setting. Chest x-ray films were obtained on all patients and each patient was observed carefully for evidence of pericarditis or congestive heart failure. SGOT levels were obtained on patients who demonstrated significant electrocardiographic abnormality. Two patients in this series expired during the course of their illnesses and the pathologic observations of the heart in one of these patients is included in a case report.

For purpose of interpretation, the series was divided into two groups. The first group included those patients with meningitis only. None of these patients had clinical evidence of meningococcemia with petechiae or shock, and all had negative blood cultures. The second group comprised the remaining patients who had either meningococcemia alone, or the latter with meningitis.

Results

Of the 20 patients, six had meningitis only, four had meningococcemia only, and ten had both meningococcemia and meningitis. Two of the 20 patients died within 36 hours of admission, both with fulminating meningococcemia and shock.

Meningitis

Four of the six patients with meningitis had normal serial electrocardiograms. The fifth patient demonstrated minor P-wave changes and repolarization abnormalities on the second hospital day which reverted to normal by the third hospital day. The sixth patient likewise showed only transient but somewhat more abnormal electrocardiographic changes. On the twelfth hospital day, generalized repolarization abnormalities with inverted T-waves in the left precordial leads were present. A subsequent electrocardiogram three days later, as well as further followup electrocardiograms, were normal. None of these patients demonstrated any clinical evidence of cardiac disease and all had normal chest x-ray films.

Meningococcemia With or Without Meningitis

Only three of these 14 patients had normal serial electrocardiograms, although one patient had only one electrocardiogram taken before his demise.

Two patients manifested minor transient arrhythmias. The first of these had a shifting pacemaker on the third hospital day. The admission electrocardiogram on the other patient had a wandering pacemaker with varying sinus to nodal rhythm with some nodal beats conducted aberrantly suggesting the Wolff-Parkinson-White syndrome. A second electrocardiogram was normal but an electrocardiogram taken on the eighth hospital day showed a slight shifting pacemaker. Two other patients also demonstrated arrhythmias, one major and one minor, but both are described subsequently because of other abnormalities that were present.

Five patients demonstrated repolarization abnormalities which varied as to their time of appearance as well as their persistence. One patient had low amplitude T-waves only on an admission electrocardiogram. The second patient developed generalized T-wave inversion with minor ST

elevation in several leads on the sixth hospital day. These findings gradually improved and had returned to normal within one week. The three remaining patients had repolarization abnormalities which were apparent on admission electrocardiograms, persisted for two weeks, and then returned to normal. One of these patients also had a shifting pacemaker on admission.

The four remaining patients all had major abnormalities in their electrocardiograms. Tracings taken in the first patient were very suggestive of pericarditis. Initial tracings showed significant generalized ST elevation which receded over a two-week period and was accompanied and followed by generalized, deeply inverted T-waves. Over a two-month period the T-waves gradually returned to normal. At no time during this patient's course was there any other evidence of pericarditis. Chest x-ray films remained normal and an SGOT value which was obtained on the twelfth hospital day was within normal limits.

A second of these patients had a course complicated by shock, acute tubular necrosis, and peripheral gangrene, and has been reported previously.[7] On the seventh hospital day, widespread ST changes with depression and marked T-wave inversion were noted and persisted for some four weeks. Gallop rhythm was evident from the fourth to the seventh hospital day, but there was not any evidence of cardiomegaly, clinically or radiographically. No central venous pressure measurement was made and a SGOT was obtained only somewhat late in the patient's course.

The remaining two patients are being presented as separate case reports because of their interest.

Case 1. This 19 year old white man was admitted to the hospital with dizziness, sore throat, chills, stiff neck, and headache. Physical examination revealed a temperature of 104 degrees F, blood pressure 80/40 mm Hg. and pulse 110. Scattered petechiae and ecchymotic lesions were present over

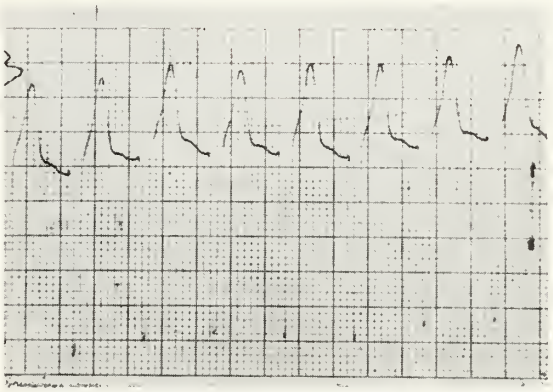


Figure 1. Electrocardiogram taken on the second day of patient No. 1. The R-wave has been lost in V3. At necropsy there was evidence of marked myocarditis and abscess formation in the heart.

the trunk, legs, arms, and conjunctivae. He rapidly became comatose.

The white cell count was 60,800 with 47 neutrophiles, 3 myelocytes, 43 bands, and 7 lymphocytes. Spinal fluid protein was 112 mg/100 ml, sugar 61 mg/100 ml. There were 455 cells, 93% of which were neutrophiles. The blood culture was positive for Neisseria meningitidis.

The patient rapidly developed progressive obtundation and relentless hypotension, which failed to respond to vasopressors and corticosteroids. Electrocardiogram initially showed sinus tachycardia. A second electrocardiogram on the second day showed ST elevation in AVL and a loss of R-wave leads V1 through V3 (Figure 1). He died 31 hours after admission. At necropsy, petechiae and ecchymoses covered the entire trunk, all extremities, the conjunctivae, epiglottis, diaphragm, pleurae, epicardium, endocardium, aortic adventitia, all serosal surfaces of the gastrointestinal tract, and the gastrointestinal mucosa. The heart weighed 350 grams and showed petechiae. Hematoxylin and eosin sections revealed a few areas of interstitial edema,

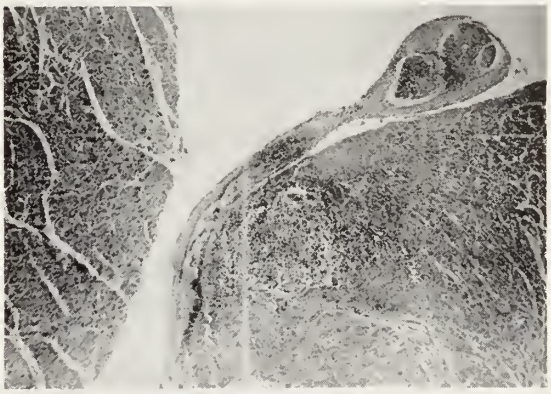


Figure 2. Photomicrograph of the well-delineated micro-abscess in a papillary muscle of the patient in Case Report No. 1. (H and E x 40).

degeneration of myocardial fibers, inflammatory cell aggregates, and a well-delineated micro-abscess of a left ventricular papillary muscle with neutrophiles and liquefaction necrosis (Figure 2). The adrenals showed only mild medullary congestion. The leptomeninges were normal, and vascular engorgement without inflammatory cells was present in the pia mater and the arachnoid of the brain.

Case 2. This 21 year old white man was admitted with a one day history of fever, malaise, and muscle stiffness. Shortly thereafter, petechiae were noted on the trunk and arms, as well as nuchal rigidity. The white blood cell count was 21,870 with a shift to the left. Spinal fluid examination showed 21 cells, 17 of which were neutrophiles, and the spinal fluid culture grew out Neisseria meningitidis. The patient was treated with large doses of penicillin and intravenous fluids, and aside from transient hypotension his clinical course was unremarkable.

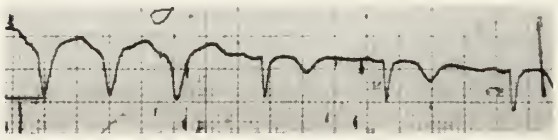


Figure 3. Electrocardiogram taken on the tenth hospital day of patient No. 2 showing a short run of ventricular tachycardia and the loss of a previously present R-wave in lead 1. This patient also had extensive ST and T-wave changes in all leads.

Admission electrocardiogram showed sinus tachycardia. A second electrocardiogram on the tenth hospital day showed ST segment elevation in leads 1 and V2 through V6, and R-wave loss in V5 and V6. An electrocardiogram on the twenty-third hospital day showed a short run of ventricular tachycardia and a loss of R-wave in lead 1 (Figure 3). The widespread T-wave changes persisted through discharge on the forty-third hospital day. Six months later, during retrograde pyelography under anesthesia, an episode of supraventricular arrhythmia of undiagnosed type occurred.

Discussion

Several authors have recently pointed out that myocardial involvement in meningococcal infections seems to be more common and more important than previously recognized. Following a few isolated case reports, Saphir first pointed out that meningococcal myocarditis was more common than previously thought when he found pathologic evidence of myocardial involvement in two of ten patients with fatal meningococcal infection.[3] Additional case reports followed, several of these reporting myocarditis accompanying meningococcal endocarditis.[8,9] The impression at that time was that meningococcal myocarditis was usually fatal. Rappaport and Zuckerbrod reported a patient with meningoccal myocarditis with associated electrocardiographic changes in 1945.[10] Various pathologic studies at about this time reported an incidence of myocarditis higher than originally described by Saphir, but not nearly the 80 per cent recently mentioned.[5]

Holman and Angevine were the first to report electrocardiograms on more than an isolated case.[11] After having two cases of meningococcal myocarditis, one proved pathologically, they took electrocardiograms on eight more cases from the third to the fifth hospital day and found all to be normal. Tobin, in reviewing 63 consecutive cases of meningococcal disease in 1956, noted that twelve of the patients had electrocardiograms taken, and of these, half were abnormal.[12] The changes he described were similar to those in our series. Three of his patients had prolonged ST and T-wave changes and one, transient T-wave changes. Two other patients had minor rhythmic disturbances, one being a shifting pacemaker as was noted in three of our patients. Levin and Painter noted that seven of eight patients admitted with hypotension had abnormal electrocardiograms, but the electrocardiograms in patients with no hypotension were normal. Thirteen of their patients had gallop rhythm and ten had elevated central venous pressure.[13] Despite this increasing clinical and pathologic evidence of myocardial involvement in meningococcal infection, there have been no previous studies made to determine how often this occurs clinically.

Clinical awareness of myocardial involvement with infectious disease is poor when compared to the incidence found on pathologic examination. Likewise, specific interpretation of the abnormal electrocardiograms in reference to the actual lesions

is very difficult. Patients with infectious diseases frequently have abnormal electrocardiograms attributed to electrolyte abnormalities, acid-base changes, autonomic influences, and metabolic or enzymatic changes. However, patients with meningococcal disease usually recover quickly from their illness, and only one patient in our series was ill for a prolonged period of time, whereas most of the significant electrocardiographic changes persisted for at least one week. Electrocardiographic changes have been noted in central nervous system lesions but our patients with meningococcal meningitis recovered quickly from their illness.

The preponderance of abnormal electrocardiograms in the patients with meningococcemia in our series could perhaps have been anticipated from the generalized nature of their disease. Whereas two of six patients with meningitis had abnormal electrocardiograms and these were both of a transient nature, only three of the patients with meningococcemia had normal electrocardiograms. Although Levin and Painter noted that abnormal electrocardiograms occurred predominantly in patients who were hypotensive, to our knowledge there has been no previous recognition that abnormal electrocardiograms seem to occur predominantly in the meningococcemic form of the disease.

Although we had anticipated finding clinical evidence of pericarditis in some of the patients in our series, none presented this picture. However, a patient recently admitted to this hospital, but not included in this series, did develop pericarditis with effusion during his illness.

Review of autopsy material of meningococcal infections which have occurred at this hospital for several years, as well as recent figures given in the literature, suggests that the pathologist as well as the clinician has failed to appreciate the frequent occurrence of myocardial involvement in meningococcal infections. Examination of several sections of heart muscle may be necessary to document focal myocardial involvement. This may explain the low incidence of reported cardiac involvement in the earlier literature.

The clinical significance of this study is exemplified particularly by the two case reports. In the first patient, serial electrocardiograms were consistent with myocardial injury, and at necropsy an abscess of a papillary muscle was noted along with evidence of generalized myocardial inflammation. The contribution of impaired myocardial function to the shock this patient presented is unknown.

A routine electrocardiogram taken on the second patient on his twenty-third hospital day showed a run of ventricular tachycardia in addition to evidence of myocardial injury. This emphasizes the importance of keeping patients with meningococcal infections in bed for the first ten days of their illness, and longer if cardiac abnormalities are present. We routinely follow this and have had no known deaths from arrhythmias following the initial critical phase of the illness.

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INTESTINAL PARASITES AND NUTRITIONAL STATUS

II. PARASITIC INFECTION IN CHILDREN IN SOUTH CAROLINA*

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This study is confined to the incidence of infection by the human parasite *Ascaris lumbricoides* in a specific segment of the population and within a given geographic area. Physicians acknowledge the presence of these large intestinal round worms of man, and local families frequently report that their children pass worms with bowel movements. However, there are no specific data published on the incidence within this region from which to determine the extent of the problem. The purpose of this study was to survey a limited number of children in the central part of the State of South Carolina to determine incidence and worm burden in a well-defined sample of this population.

A review of the literature reveals that surveys have been made in the Coastal area of South Carolina by Jeffery et al,[1] Bonner et al,[2] Lease et al,[3] and Carter et al.[4] In these studies quantitative egg counts were not made to determine whether the children harbored few worms or many worms. For practical application, there is little reason to undertake the laborious and time-consuming method of counting the number of ova per gram of feces when the presence of one *Ascaris* ovum justifies the administration of piperazine citrate; however, for academic research purposes, when sufficient sample was available, egg counts were made in this study.

Nutritional status studies, dietary intake studies, prescription food demonstrations, and even school feeding programs lose their meaningful impact when the subjects harbor heavy burdens of intestinal parasites. Little is known about the effects of parasites on the nutrition of the host except the observations of livestock managers on the beneficial effects of deworming.[4]

In view of current technological achievements and the application of advanced scientific knowledge to public health and social welfare in the United States, the eradication of intestinal parasites in humans should have been an accomplished fact. However, this is not the case. It thus becomes necessary to review man's knowledge and experiences before developing and demonstrating a method of eradication. *Ascaris lumbricoides* has been known

*This report concerns Phase II of an overall project being undertaken by the University of South Carolina. A preliminary report appeared in this Journal 65:63, March 1969.

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for many centuries to parasitize human beings, and publications on incidence in various parts of the world have appeared periodically.[5-9] During the period 1916 to 1920 emphasis was placed on ascariasis, because it was demonstrated at that time that during their life history the migrating larvae regularly pass through the liver and lungs, causing considerable pathology and a pneumonitis in heavy infections.[10-13] Previous studies have shown that endemic centers of ascariasis in the United States exist in the Appalachian Mountains and many coastal areas of the Southeast. Although there are no records of endemic centers in the Northern and Western states, the migration of southern labor to northern cities has transported at least temporary situations.

Chemotherapeutic treatment can effectively remove *Ascaris* from the human body if the subject consumes a drug such as piperazine on definite days spaced in accordance with that time required for the microscopic larvae to migrate through the bloodstream, return to the intestines, and grow to maturity. Correct personal hygiene practices and the sanitary disposal of fecal matter by all individuals is essential to prevent reinfection and to achieve the ultimate goal of eradication.

Materials and Methods

Two methods are used for the collection of stools in the various centers tested. The apparatus for the preferred and most frequently used method consists of a portable toilet arrangement or, for smaller children, a portable commode chair, having a bucket-like bowl that is lined with a clear polyethylene bag. The bag is perforated along the bottom edge to allow drainage of urine. After the fecal specimen is deposited in the bag, it is closed at the top with a wire and placed in a plastic coated paper container labeled with the subject's name. The bags are then placed in a styrofoam chest with ice and transported to the laboratory.

The second method of collection is that by which the parent or guardian is supplied with small containers and asked to obtain specimens from all members of the family and return them to the center to be transported to the laboratory. This method is believed to be slightly less accurate than the first one described because generally a much smaller sample is available for testing and there is a possibility of receiving invalid samples. It does allow, however, for the testing of entire families rather than only those members of families who attend a specific school or center, thus facilitating the testing of larger groups of people.

Qualitative tests are conducted on all the samples once they are received in the laboratory. The direct fecal smear, by which method two slides from each specimen are examined microscopically, is used in checking samples collected by both methods. The zinc sulfate floatation, which concentrates the helminth ova from the fecal material,[14] is used in conjunction with the direct smear for checking samples collected by method I. Floatation is accomplished with zinc sulfate solution of specific gravity 1.20.[9] Where indicated, quantitative estimates of the intensity of helminth infections are made by the Stoll dilution egg count technique.[15]

With the cooperation of the county health departments, OEO personnel, and school nurses, home visits are made to provide information to parents or guardians, and to administer a flavored piperazine citrate syrup to every child found to harbor intestinal round worms. All medication is given under medical direction. Treatment to eliminate egg-laying worms is given on two consecutive days and every forty-fifth day thereafter for as long a period as possible in order to eliminate worms from the child and to reduce the *Ascaris* egg concentration in the dooryard soil.

An attempt is made to instruct the parents and each infected child in the requirements for personal hygiene and sanitation necessary to prevent reinfection. While several teaching devices such as films, lectures, games, etc., are employed to achieve this end, the most effective device for creating concerned interest is the display of a bottle containing several worms removed from a child dwelling in the community. Homes where children harbored *Ascaris* are pinpointed on a county map to aid delivery of services by the school nurses, OEO personnel, county agents, and Farmers Home Administration personnel.

Interpretation of Data and Discussion

A significant number of children living in the central part of the State of South Carolina harbor *ascaris* (Table I). The fact that few of the victims or their families have a comprehensive understanding of the nature of this infection and of adequate preventive measures is undoubtedly one reason for this high infection. The role of diet and general nutritional status as deterrents to infection

Table 1
Long Round Worms (Ascaris) in Children in South Carolina

Code Name Of Center	Miles From State Capitol Building	Age Range Of Children Attending	Population Distribution	Number Of Stools Examined	Number Containing Parasite Eggs	Percentage Of Children Harboring Worms
Lee County	50 (rural)	4 - 7	5% White 95% Negro	192	42	21.7
Lee County	50 (rural)	8 mo - 15 yrs	100% White	28	5	17.8
Lexington County	6 (urban)	4 - 12	Not Available	35	5	14.3
Richland County:						
SL	2 (urban)	3 - 5	100% Negro	44	10	22.7
	12 (suburban)	1 - 3	27% White	14	0	0
PG			73% Negro			
	0.2 (urban)	4 - 5	41% White	22	0	0
ECE			59% Negro			
H	20 (rural)	5 - 6	100% Negro	99	30	30.3
W	2 (urban)	5 - 6	100% Negro	111	12	10.8
	2 (urban)	3 - 5	12% White	17	1	5.9
CF			88% Negro			
Ar	5 (urban)	3 - 5	100% Negro	20	1	5.0
Williamsburg County	80 (rural)	8 mo - 15 yrs	1% White 99% Negro	302	88	29.2

Total number of children in this study 884.
Total number of children in this study who were harboring worms 194.
Percentage of children in this study who were harboring worms, 21.9.

and the intensity of infection are also believed to be important factors.

In some geographical areas intestinal parasites are more prevalent in the rural regions than within urban communities. The present studies indicate that more than twice as many (26.6%) of the rural South Carolina children surveyed have ascariasis as do the urban children (11.0%). The absence of central sewerage and water systems has been given as a primary reason for this situation.[12]

Quantitative data showing the number of parasite eggs per milliliter of feces make it possible to estimate the number of worms a child is harboring.[4] (Table II). The average number of parasite eggs per milliliter of fecal matter is directly related to the number of female worms.[11,13] However, so many factors affect this figure that some investigators prefer to have the data averaged for an entire community.[14] In the present study these averages indicate that the infected rural child has more than twice the number of worms as the infected city child.

Samples were obtained from both white and Negro children. Stools from 52 white children showed 13.5 per cent harbored worms (*Ascaris*). While this may be compared to the study of 56 white preschool children in Beaufort County where 4.2% were found to be infected with *Ascaris* and *Trichuris*, the small number of white children present in the groups tested prevent the formulation of valid conclusions concerning the incidence of intestinal parasites within this group. These studies are being continued and expanded to obtain adequate and valid averages.

Summary

Over twenty per cent of the Head Start, Day Care Center, and elementary school Negro children tested in the central area of the State of South Carolina harbored intestinal large round worms (*Ascaris*). This study included both urban and rural areas and a total of 884 children.

Twice the number of rural Negro children had worms as did urban Negro children. Furthermore, the average infected rural child harbored twice as many worms

Table 2

Intensity of Ascariasis Infection in Children in South Carolina (Based on Stoll Count Technique)

RURAL		URBAN	
Subject No.	Eggs per ml/feces	Subject No.	Eggs per ml/feces
H-2	60,433	W-40	7,300
H-7	127,900	W-42	4,366
H-14	69,166	W-44	112,666
H-16	63,800	W-48	2,766
H-17	190,766	W-53	22,333
H-27	28,733	W-62	18,000
H-30	19,466	W-66	67,166
H-33	37,033	W-70	1,000
H-46	6,200	W-73	200
H-48	166	W-20A	25,733
H-52	73,700	W-97	7,500
H-60	46,700	W-102	2,367
H-44A	54,866	SL-5	633
H-63	46,633	SL-12	5,533
H-72	48,233	SL-35	8,366
H-77	78,933	SL-33	9,300
H-78	49,833	SL-39	11,400
H-79	28,800	SL-9	12,633
H-19A	104,900	SL-31	15,533
H-85	255,400	SL-19	22,966
H-86	47,933	SL-36	30,900
H-94	57,400	SL-41	39,966
H-95	2,733	A-16	50,567
H-97	123,833	CF-9	5,667
H-98	40,766		
H-99	1,600		484,861
H-101	2,600		
H-102	34,100		
	1,702,626		
Average number of eggs per ml of feces from this rural center was 60,808.		Average number of eggs per ml of feces from these urban centers was 20,202.	

as did the average infected city child. Possible explanations for this are discussed and are being studied further to determine the most feasible procedures for eradication.

To the extent possible the children found by this study to be harboring worms were given piperazine citrate syrup every 45 days to prevent female *Ascaris* from maturing to egg-laying adults.

The nutritional status of these children and their diets as well as the physiological response of recently dewormed children to a vitamin-protein concentrate diet supplement is under investigation and will be reported upon completion.

Acknowledgement

The Office of Economic Opportunity provided funds with which to make this study possible. The authors gratefully acknowledge the cooperation of the county health departments in Lee, Lexington, Richland, Sumter, and Williamsburg Counties, OEO personnel, school nurses, Head Start personnel, day care center personnel, and many others who helped to carry out this program.

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PHEOCHROMOCYTOMA

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Pheochromocytoma is a biologically active tumor that arises from the chromaffin tissue of the sympatho-adrenal system. The function of the chromaffin cells is biosynthesis, storage, and release of catecholamines. The biologically active catecholamines are epinephrine, norepinephrine and dopamine. Hyperfunction of the chromaffin cells, as occurs in pheochromocytoma, results in the release of excessive quantities of catecholamines.

Although pheochromocytoma is the rarest of known causes of curable hypertension, it has received a great amount of attention in medical literature over the past several years because of its fascinating and striking clinical features. Knowledge concerning this neoplasm has accumulated rapidly in the past twenty years. Only nine cases had been reported prior to 1930 and fewer than 150 cases by 1950. During the past 15 to 20 years more than 1,000 additional cases have been reported.

In 1886 Fraenkel[1] reported the finding of bilateral adrenal tumors at necropsy in a young girl who had had attacks of hypertension. Pick suggested the term pheochromocytoma in 1912.[2] Mayo reported the successful removal of a pheochromocytoma in 1927.[3] Pincoffs is generally credited with the first accurate preoperative diagnosis culminating in surgical cure of pheochromocytoma.[4]

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The exact incidence of pheochromocytoma is unknown, but an incidence of one case per 20,000 to 50,000 hospital admissions has been estimated. It has been found in less than 0.5 per cent of patients with hypertension, but it is estimated that more than 1,000 cases occur annually in the United States. Four to six cases should be diagnosed in South Carolina each year.

The tumors occur at all ages, having been reported in a premature infant weighing 2 lb. 9 oz. and in a patient 77 years of age, but the most common age is the mid-fifth decade or 45 years of age.

The sexes are usually equally represented in any large series.

Location

Approximately 98 per cent of these tumors lie within the confines of the abdominal cavity. The other 2 per cent are found in the chest along the mediastinal sympathetic distribution and there are cases on record of tumors at the base of the skull or in the carotid sinus area. Of those tumors found in the abdomen approximately 90 per cent arise in the adrenal medulla. The remainder may be found in extra-adrenal, para-aortic, chromaffin tissues, and a favorite site is the organ of Zuckerkandl at the bifurcation of the great vessels. There are reported cases in the wall of the urinary bladder and other abdominal viscera.[5]

Pheochromocytomas are found more commonly in the right adrenal. There is an incidence of bilaterality which approaches 10 per cent. Of this 10 per cent there is a high incidence of multiple sites in children.

Approximately 15 per cent of the tum-

ors are malignant, and the liver is a favorite site of metastasis.

In children the tumors have a greater frequency of multiplicity and a greater incidence of sustained hypertension. Stackpole in reporting 100 pediatric cases, found 68 boys and 32 girls.[6] In adults there is a tendency toward females predominantly; however, some reports vary. The mean age in children is 11 years, ranging from premature infants to 15 years. Ninety-nine per cent of the tumors in children are in the abdomen. Seventy per cent to be in the adrenal area. The frequency of multiplicity in children must again be stressed.

Unusual Consideration and Associations

With the greater frequency of reporting of cases of pheochromocytoma, there have been noted several unusual associations which are more than coincidental.

There is a significant co-existence of pheochromocytoma with neurofibromatosis of von Recklinghausen's disease. At least 37 cases have been reported.[7]

There is a frequent association of cholelithiasis with pheochromocytomas which function intermittently; this is an unexplained finding.[7]

A number of cases of simultaneous occurrence of pheochromocytoma and von Hippel-Lindau's disease have been described in recent years. Von Hippel-Lindau's disease and multiple neurofibromatosis are commonly considered to be related dysplasias of those tissues which arise from the neuroectoderm. Since the adrenal medulla is also of neuroectodermal origin, it is not surprising that these disorders are associated with a high incidence of pheochromocytoma.[8]

The unusual frequency with which pheochromocytoma and carcinoma of the thyroid are found in the same patient was first noted by Sipple in 1961.[9] At least 22 cases have now been reported, nearly half of which have shown a familial incidence consistent with a dominant autosomal pattern of heredity.[10] Parathyroid adenomas are occasionally present in these cases, but it appears that the pheochromocytoma-thyroid cancer-parathyroid adenoma complex is a distinct genetic entity and not a variation of the multiple endocrine adenomatosis syndrome. The histologic type of thyroid malignancy in these cases is invariably an uncommon medullary (solid) carcinoma of the thyroid with amyloid stroma and the pheochromocytomas are most often bilateral (18 to 22 cases).

Diagnosis

The symptoms associated with pheochromocytoma vary somewhat with the individual; however, when considering a hypertensive patient as a likely pheochromocytoma possibility, five criteria are suggested: 1) Hypertensive patient in the age range of pheochromocytoma. 2) Absence of family history of hypertension. 3) Presence of malignant hypertension. 4) Tendency to postural hypertension. 5) Hypertensive response to surgery.

Listed below are the associated symptoms of the disease as they have occurred in large series, in order of their frequency.[11]

Headache	91%
Excessive perspiration	65%
Palpitation with or without tachycardia	68%
Facial pallor	50%
Nervousness and anxiety	50%
Tremor	45%
Nausea with or without vomiting	38%
Weakness and fatigue	25%
Chest pain	23%
Abdominal pain	15%

There are several other symptoms which occur. However, in large series less than 10 to 12 per cent of the patients demonstrated these symptoms.

Visual disturbances
Loss of weight
Raynaud's phenomomen of the terminal phalanges
Dyspnea
Constipation
Seizures
Flushing of the skin or warmth
Intolerance to heat
Dizziness or faintness
Paresthesias or pain in the arms

It is noteworthy that the most common incorrect diagnoses which have ben made in the past are diabetes mellitus, thyrotoxicosis, anxiety, neurosis, vascular headaches, epilepsy and hypertensive crises due to lead poisoning and porphyria.[12]

Clinically, pheochromocytomas can be divided into two groups: those which produce symptoms and hypertension intermittently and those which seem to function more or less persistently. Particular attention should be given to the three most common symptoms: headache, excessive perspiration and palpitation. A great percentage of all the patients with pheochromocytoma, whether they have continuously functioning tumors or paroxysms have the above symptoms. Characteristically the headaches are severe, abrupt on onset and are of relatively short duration. Excessive perspiration usually accompanies this type of blood pressure.

Symptoms characteristically occur during the paroxysms of hypertension among the patients with intermittent hypertension. These symptomatic intervals vary in frequency from one in two months to 25 times daily and in duration from 30 seconds to one week, attacks usually lasting less than 15 minutes. Usually the symptomatic paroxysms occur spontaneously but in some patients they could be precipitated by movements of the body, rolling over in bed, leaning forward or twisting the trunk. The duration of symptoms of the hypertension at the time of diagnosis varies from reported cases of three weeks to thirty-two years. The average seems to be somewhere between three and four years.

Physical Examination

Approximately 35 per cent of the patients will be as much as 10 per cent under weight. Obesity is not usually a finding, however, there are cases reported. The blood pressure is often quite labile, but unless the blood pressure is taken several times daily this lability may be overlooked. Palpation of the tumor is not the usual occurrence. Vaso-motor instability manifested by Raynaud's phenomenon is seen infrequently. Retinoscopy will usually reveal group III or IV hypertensive changes at the time of a diagnosis.

Laboratory

The diagnosis of pheochromocytoma is based upon suspicion gained from clinical criteria but definite proof is obtained from the laboratory. There are several laboratory tests which are extremely helpful in establishing the diagnosis, but the finding of elevated amounts of epinephrine and norepinephrine in the blood and the urine should be the final criterion.

Hyperglycemia is present in about 66 per cent of the patients. Hypermetabolism is present in about 75 per cent of the patients with persistent hypertension. Albuminuria is quite common in patients with persistent hypertension.

The cold pressor test which is familiar to all clinicians is very helpful and can induce paroxysms which are caused by a release of catecholamines.

The histamine provocative test can be accomplished according to usual instructions. A positive test consists of a sharp rise within one minute of injection of at least 50 mm of mercury diastolic above the maximum response to the cold pressor test. The glucagon test may be helpful in much the same manner as the histamine test and has yielded approximately 75 per cent true positive. Both tests can be hazardous in patients who have sustained hypertension over 190 to 200 systolic.

The tyramine test had a few months of glory recently. It has been found to be not as accurate as the histamine cold pressor and glucagon test although somewhat safer.[13]

The regitine test is quite helpful in patients who have sustained hypertension above 200 mm of mercury systolic in that it blocks the alpha receptors. As a general rule with an appropriate dose of regitine a drop in blood pressure of 25 mm systolic and 35 mm diastolic certainly gives sus-

picion of a functioning tumor. There are certain false positives to the regitine test, and one must keep in mind the fact that acute glomerulonephritis can mimic pheochromocytoma and also give a positive regitine test.

The catecholamines are rapidly metabolized by a combination of oxidative deamination and O-methylation. In the presence of monamine oxidase, this is converted further to 3-methoxy, 4-hydroxymandelic acid or as is more commonly known vinyl mandelic acid (VMA). A recently developed method for the chromatographic analysis of the urine for VMA is a useful screening test for pheochromocytoma but this once again measures a metabolite.[14]

The Pharamocology Department of the Medical University of South Carolina has developed the determination of catecholamines to a very precise point.[15] At present our final diagnosis of pheochromocytoma rests almost entirely upon the results of this test. The present positive value in our lab are (urine) : norepinephrine level above 60 mcg per liter and epinephrine above 40 mcg per liter. A total of greater than 200 mcg per liter is considered definitely positive. Plasma levels are positive in greater than 5 mcg per liter of norepinephrine and 2 mcg per liter epinephrine. Usually a combination of the two catecholamines of greater than 10 mcg per liter is very definite evidence of pheochromocytoma. There are several things that will give false positive reaction to the catecholamines and these must be kept in mind, such as exogenous sources of sympathetic-type drugs from broncho-dilators or nose drops. Also vanilla extract will give positive reactions, as will coffee, quinidine, tetracycline and increase in the urea nitrogen.

X-Rays

Most assistance in the diagnosis of pheochromocytoma is obtained from PA, lateral and oblique chest x-ray films and intravenous pyelograms with laminograms of the supra-renal and renal areas. The use of aortography and retroperitoneal air studies has decreased in most centers throughout the United States because the yield is very low. With the documentation of information as it currently exists and with approximately 98 per cent of the tumors occurring in the abdominal cavity, one must perform an exploratory laparotomy under usual circumstances. In certain medical centers, where selective angiography has reached a point of sophistication, there was reported to me recently an additive to the diagnostic armamentarium. When selective adrenal angiography is performed, there is a definite rise in the blood pressure in the presence of a pheochromocytoma,[16] apparently unexplained as yet.

Since the Medical University Hospital opened in 1955, nine cases of pheochromocytoma have been treated here. The following represents one rather typical case, the other a most unusual one.

Case 1. J. W.: A 42 year old colored female referred to the Medical University Hospital from her local physician with a request to "rule out pheochromocytoma." She had a history of nausea, vomiting, palpitation, profuse sweating, and episodes of dyspnea for five months. She had been noted by her local physician to have very labile hypertension. She had been seen by several physicians in the past for "anxiety". Her workup in the Medical University Hospital demonstrated a mass over the right kidney on intravenous pyelogram and nephrotomogram. She had an abnormal gluocose tolerance test and a positive regitine test. Thyroid evaluation was normal. Her plasma and urinary catecholamines were markedly positive. She underwent exploration with the finding of a 90 gm pheochromocytoma in the right adrenal. Postoperative course was benign. Postoperative blood pressure was 140/90. Repeated catecholamines studies postoperatively were low normal.

Case 2. G. D.: A 41 year old colored male who was referred to the Medical University Hospital with a large left upper quadrant mass. His intravenous pyelogram showed a large left supra-renal mass displacing stomach, colon, and left kidney. His two-hour postprandial blood sugar values were elevated. He underwent exploratory laparotomy. Biopsy specimen of a large, unresected tumor was noted to show liposarcoma. His blood pressure peroperatively did not attain hypertensive ranges, however, during

induction of anesthesia there was a moderate rise to 160/100 which was rather sustained during the operative procedure. Postoperatively he aspirated and died. His autopsy showed a malignant pheochromocytoma, weighing 3,000 gm. This case particularly proves that hypertension during anesthetic induction should arouse one's suspicions in regard to pheochromocytoma.

The age range of our patients was from 19 to 52. There were five Negro and four Caucasian patients. The length of the symptomatology was rather vague, varying from questionable 6 years to 2 months. All patients with the exception of the patient with malignant pheochromocytoma showed hypertension and headaches. Six of the nine showed vacillating blood pressure, 5 of 9 showed palpitations, 4 sweating, 3 vertigo, 3 dyspnea, 1 nausea and vomiting, 1 syncope, (2 out of the 9 tumors were malignant). Three of the nine showed positive findings on the intravenous pyelogram, three showed elevation of blood sugar, three of nine had negative histamine or regitine tests and two patients demonstrated both equivocal urine and plasma catecholamines on the first determination, with positives in both cases on repeated studies. The remainder of the patients were positive unequivocally on the first testing. Three tumors were on the right side and six on the left. The size varied from 63 gm to 3 kg. The weights were 63 gm, 220 gm, 64 gm, 68 gm, 90 gm, 3,000 gm. Two of the tumors were not weighed.

Treatment

The treatment of pheochromocytoma is surgical. The approach is either midline or subcostal. If a tumor is not found in the primary adrenal area then one must certainly do a complete exploratory laparotomy to include the para-aortic nodes, the entire abdominal viscera and the urinary bladder. As early as 1951 the operative mortality in patients with pheochromocytoma was reported to be as much as 24 per cent. With the change in preoperative diagnosis and recognition of the tumor and in the operative management, the operative mortality has been reduced to more acceptable range of 5 to 7 per cent. Primary dangers during the operation are sudden rises in blood pressure either at the induction of anesthesia or during manipulation of the tumor, and cardiac arrythmias. Following removal of the tumor, there is frequently a drop in blood pressure which is unresponsive to vasopressors. The general consensus at present is to have adequate blood available so that the vascular volume may be filled following extirpation of the tumor.

In 1962 Montalbano reported two cases of quite rare adrenal medullary hyperplasia.[17] This should alert us in cases in which exploration for pheochromocytoma reveals no tumor. Under these circumstances bilateral adrenal biopsy should be performed, as one might discover a case of hyperplasia of the adrenal medulla.

One point for consideration that all surgeons might keep in mind is that an increase in blood pressure following induction of anesthesia should alert all surgeons to the possibility of pheochromocytoma in that this is one of the only entities which will give this sort of response.

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RUBELLA DIAGNOSIS

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Introduction

A review of the status of rubella (German measles) in South Caolina is warranted by two recent events. The first is the prediction of a possible rubella epidemic year in 1970-1971 and the second is the recent licensing of rubella vaccine and the commercial availability of this product. Although rubella is a mild disease in children, the frequent occurrence of teratogenic effects, particularly when a pregnant patient is infected during the first trimester, has been well documented.[1,2]

There were 628,714 females between the ages of 10 and 44 years in the 1960 South Carolina census. A recent survey of 1,194 high school girls performed by the State Board of Health in 1967 demonstrated that 84.7% had hemagglutination inhibition (HI) antibody to rubella.[3] Applying this rate to the 628,714 females in the State of child bearing age yields approximately 96,000 susceptible persons.

The Bureau of Laboratory Services and Research offers serological examinations for rubella antibody (HI test) and virus isolation services to the practicing physicians. These tests are useful to:

(1) determine the immune status of a patient,
(2) confirm a diagnosis in a patient with exanthematous infection and
(3) diagnose congenital rubella in a newborn infant.

Submitting Specimens

In order to select the most appropriate specimens, at the optimum time, for the diagnosis of this disease, it is important to understand the course of rubella infection following natural exposure to the virus. The rash occurs 14 days after contact with the agent. Viremia is present from 7 days prior to, to 7 days after, the onset of the rash. HI antibody titer begins to rise on the third day of the rash and peaks in about two weeks. There is usually at least a four-fold rise in antibody titer and the decline in titer is very slow. In congenital rubella infection virus is often present at the cervix of the mother and will be shed by the infant for six months post-partum.

Based on the above information, timing is essential in the selection of diagnostic specimens. When the physician is attempting to confirm a diagnosis of an exanthematous infection or in a pregnant patient who has been exposed to a case of rubella, throat swabs of the posterior pharynx

Bureau of Laboratory Services and Research, South Carolina State Board of Health, Columbia, South Carolina 29201.

should be obtained. The optimum yield of virus occurs when these specimens are obtained from 5 days prior to, to 4 days after, the onset of the rash. Isolation of the virus from the blood is best accomplished during the 7 days prior to the onset of the rash. Heparinized blood specimens should be submitted to the laboratory for virus isolation.

For serological confirmation the first specimen of whole, clotted blood should be collected as soon as possible, preferably within the first 3 days of the rash. The second specimen should be collected 10 to 14 days later (28 days after exposure). Specimens for serologic examination should be kept refrigerated (not frozen, unless the serum is separated from the clot) and the paired specimens submitted to the laboratory.

In congenital rubella infections, 80% of the infants secrete rubella virus for up to 6 months after delivery. Specimens which yield the virus include cervical swabs and placental tissue from the mother; heparinized blood, nasopharyngeal swabs, cerebrospinal fluid and urine from the infant. When fetal death occurs, lens cataracts and intestine also provide a good source of the virus. The specimens should be submitted to the laboratory in a frozen state.

Serial serum specimens, collected every 2 weeks, for HI antibody titer should also be submitted simultaneously from the mother and infant. A newborn less than 6 months old will usually demonstrate maternal antibody. One month post-partum, the infants HI titer will begin to decline.

Attempts to isolate the virus are justified when a pregnant patient has a natural infection, is exposed to a known case of rubella, or is inadvertantly immunized prior to knowledge of the pregnancy. Confirmation of the diagnosis of congenital rubella syndrome is also a legitimate reason for attempting virus isolation.

When the physician wants to determine the immune status of the patient, as in a pre-marital or pre-natal examination, only one specimen of whole, clotted blood is necessary. This can be mailed to the laboratory in the usual containers used for specimens for testing for syphilis.

Interpretation

The following information may be useful as a guide to interpretation of the laboratory data. That part of the general population, which has had rubella infection some time in the past, will usually have HI titers of 1:40 to 1:640. However, a titer as low as 1:10 usually infers immunity. If the exposure was in the remote past, the HI titer may rarely be zero. If the patient has been recently exposed to the disease, titers may rise as high as 1:1280. To date, studies have shown that vaccinees develops a titer of about 1:80.

Immunization

The present recommendations are to immunize only pre-school children. The rationale of this is that infection in these children serves as the reservoir of potential infection of the pregnant patient. Reducing the susceptible population will decrease the potential exposure. Since the teratogenic effect of the vaccine is not certain at this time, it is of paramount importance to avoid immunizing a pregnant or possibly pregnant woman. It is recommended that if a sero-negative woman of child bearing age is to be immunized, pregnancy tests should be performed and contraceptives prescribed. Vaccination immediately post-partum is also to be considered.

To date, it has not been demonstrated that the attenuated virus is likely to cross the placenta, and susceptible contacts to vaccinees have only rarely become infected with the attenuated virus. Sero-conversion usually occurs 30 days post-vaccination and the titers have remained at the same level for the 3 years since vaccine trials were begun. At this early date, utmost precaution should be used in interpreting this data.

In the case of a pregnant woman first

consulting her physician 3 to 4 weeks after the rash, it is too late to demonstrate the rise in HI antibody titer. Complement-fixing (C-F) antibody rises slowly. It usually begins to appear 7 to 10 days after the rash and then slowly declines. C-F antibody, especially in high titer, usually is indicative of recent rubella infection. The C-F test is not currently being performed in Columbia, but specimens submitted to the Bureau of Laboratory Services and Research for this examination will be forwarded to the National Communicable Disease Center for study.

Further assistance in diagnostic problems may be obtained from the State Laboratory.

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SOUTH CAROLINA HEART ASSOCIATION CARDIOVASCULAR CASE OF THE MONTH

MYOCARDIAL REVASCULARIZATION

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A 48-year-old man was admitted to the Medical University Hospital on Mar. 19, 1968 with an 8 year history of typical angina pectoris which had progressed to the point where he was considered intractable to medical therapy and from which he was severaly incapacitated. He had begun taking large amounts of Demerol for relief of pain.

Physical examination revealed a blood pressure of 140/100 mm Hg and was normal otherwise. The basic laboratory work was normal, as was a chest x-ray film and the resting electrocardiogram. A 40 step exercise test revealed marked ischemic ST depression at a heart rate of 100.

Left heart catheterization, coronary arteriography, and a left ventriculogram were performed on Mar. 21. A central aortic pressure of 145/92 was recorded with a normal left ventricular end diastolic pressure. The anterior descending branch of the left coronary artery showed total obstruction proximal to the first septal perforating branch, with filling of the distal anterior descending coronary artery through collaterals from the marginal branch of the circumflex. The right coronary artery showed minimal atherosclerosis.

The patient underwent a left internal mammary pedicle implant on Mar. 25.* The implant was placed in proximity to the anterior descending coronary artery. His post-operative course was entirely without incident and he was discharged from the hospital on April 6.

Following discharge he had a reduction in angina over a period of months and between the 6th and 9th month post-operatively had no angina. He began

*Surgery performed by the Thoracic Surgical Division, Department of Surgery, Medical University of S. C.



Figure 1. The opacified internal mammary artery (IMA) is noted with extensive myocardial collateralization into the myocardium and filling of the anterior descending coronary artery. (ADCA).



Figure 2. A myocardial blush is noted in the region of the implant and a venous phase is seen with filling of the coronary sinus (CS).

working again at this point and began to have an occasional episode of angina.

He was readmitted to the Medical University Hospital on Oct. 22 for evaluation. He felt that he had experienced a dramatic reduction in his episodes of angina. He was able to walk a half mile vigorously and climb stairs without angina. His nocturnal angina had completely disappeared and his only medication was nitroglycerine, of which he consumed 1 to 5 tablets per month. He had taken no Demerol since leaving the hospital.

A left internal mammary arteriogram was performed on Oct. 23 which revealed a widely patent internal mammary artery with collateralization into the myocardium filling the anterior descending coronary artery (figure 1) and draining through the coronary sinus (figure 2). Indocyanine green was injected into the internal mammary artery and blood sampled from the coronary sinus revealed an instantaneous appearance of the dye following internal mammary injection. The central aortic pressure was elevated to 160/90. The patient was discharged to resume his previous duties.

Discussion

The surgical treatment of coronary artery disease has seen many techniques developed and abandoned. The development of coronary arteriography resulted in a resurge of interest in the Vineberg procedure.

Pervious articles in this journal have described the techniue of and indications for coronary arteriography and the surgical results of revascularization procedures in this institution.[1,2,3]

The surgical mortality is very little different for a left and right internal mammary implant as opposed to a left only, and in the majority of cases now a bilateral implant is done. Implantation procedures appear best suited for diffuse disease in the vessels of interest whereas saphenous vein bypass grafts from the aorta are now being used for isolated lesions in larger vessels.[4]

The best results from implantation procedures can be expected in the setting of a "hungry" heart; virtually complete obstruction of the coronary arteries with extensive collateralization on arteriographic study.

Controversy exists over the benefits of revascularization procedures. It appears that there are adequate numbers of significantly improved patients such as this one to justify the procedure in individuals with medically intractable angina after adequate evaluation and arteriographic studies.

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X-RAY FILM OF THE MONTH

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Cross Table Lateral with Horizontal Beam

This cross-table lateral using a horizontal beam was taken on a twenty-five year old white male involved in an automobile accident. He had a fracture of the pelvis and other injuries which attracted attention initially. As the symptoms from these began to subside, he complained of pain in his knee and a x-ray examination was ordered. The AP film of the knee was entirely normal.

* * *

Just superior to the patella one will note a horizontal interface between an area of fat density and an area of water density (blood). They outline the suprapatella bursa which in the large majority of cases communicates with the knee capsule. The fat and blood are from the narrow cavity of the tibia, having gotten into the joint capsule through a fracture which communicated with the joint. Careful inspection of the film demonstrated a lucent line in the upper tibia.

This fat/blood layering is an interesting phenomenon indicative of fracture. It is seen only when a horizontal beam is used and only when the patient has been allowed to remain still so that the fat and fluid can settle out in their respective layers.

President's Page



"The Student American Medical Association is a national student professional association with local chapters at 87 of the nation's 95 medical schools and has a total membership of more than 24,000 medical students. SAMA is the only student professional organization which is totally independent and autonomous from its parent organization. The purposes of the Association are to improve medical education, to contribute to the improvement of health care of all people, and to involve its members in the social, moral, and ethical obligations of the profession of medicine."[1]

Activism is not limited to medical students. The history of our country is replete with physician activists. Warren, the American Commander who lost his life in the Battle of Bunker Hill was a physician. A number of the signers of the Declaration of Independence were also physician activists.

The leaders of SAMA are truly activists and it is well and good that they are as long as their motivation is right. They have been allowed the privilege of attending meetings. The AMA and National Blue Shield are two that this writer knows about. They are allowed to attend and speak at reference committtee meetings.

These young people are articulate and they do speak loud and celar. They speak with.[2] "the glorious idealism and confidence of youth that it can put the world to rights —blissfully unaware that most preceding generations have been imbued with similar feelings."

Perhaps we should become activists ourselves in directing these young "physicians-to-be" in the ways and manner that has made medicine great.

Perhaps the time has come or is near at hand to allow representatives from our Medical University to attend our House of Delegate meetings, the reference committee meetings and be allowed to speak if they so desire—but *not to have the privilege of voting*. This would let them see that the "establishment" is not altogether the blame for the worlds ills. It would also let them see and come to know that organized medicine makes decisions by the "democratic process"—the fairest process the world has yet developed. They would also see that far more can be accomplished by conversation than by confrontation.

William L. Perry, M.D.

1. This is a direct quote from Edward D. Martin, President of SAMA 1969-70.
2. A Conservative Looks at Medical Student Activism Mal Rumph, M.D. Pharos, 32:141.

Editorials

Malnutrition Among The Non-Poor

The current justified hubbub over the prevalence of malnutrition among the poor arises from rather belated recognition of the obvious fact that many of this class of people lack the food of proper quantity and quality. Provision of such food should ensure good health in so far as nutritional factors are concerned. Inumerable reports, sometimes of doubtful authenticity, have stressed the need for doing something about a vast problem which does not appear to be solved by increasing handouts. The old-time tramp at the backdoor simply moved on to the next house after the first touch resulted in food for his stomach and righteous satisfaction for the donor.

In this concern with the plight of the poor the problem of malnutrition in those people who by choice promote their own ill health is overshadowed. These people do not themselves complain, nor do they have vocal advocates. Indeed, they seem to be little concerned. They enjoy reasonable prosperity but have developed habits of eating which can be as harmful as can the actual lack of a proper food supply. The symptoms of their deficiencies are usually not dramatic.

The affluent person who is malnourished lays himself open to obesity, heart disease, and anemia, to name only a few of the ills attendant upon diet deficiences. He is the one who is constantly stuffing himself with snacks and never bothers to indulge in a full balanced meal. He selects food for any reason except its true nutritional value. He swills soft drinks at all times and places but never bothers with milk. He loves sweets and starches, to the neglect of more substantial foods. He dotes on food attractively packaged, but not necessarily adequate; he probably knows pretty well what he should eat. At least he has had advice dinned into his ears often and long enough, but he just doesn't believe that he himself has much to be concerned about.

It is hard to figure what can be done to push this fellow into better ways, which might lead to a longer and more enjoyable life. Education has not touched him. It seems likely that if he is not converted he will dig his grave with his teeth, or without them.

The Psychiatric Forum

This Journal notes with interest the appearance of a new medical publication in South Carolina. The *Psychiatric Forum* is a product of the South Carolina Department of Mental Health, and is intended for national distribution. It will appear twice annually.

The first number of 31 pages comprises six articles by three psychiatrists and one neurologist from our state and its neighbor to the north. The subject matter is varied and the articles are written well.

We offer our good wishes to a companion in the field of medical journalism.

Chairmen of Committees of SCMA are reminded that reports intended for publication before the Annual Meeting in May must be received by the Journal by March 5, 1970.



Dr. John C. Hawk Jr. and **Dr. J. T. Richards** have announced the temporary removal of their office to 231 Calhoun Street, Charleston, pending construction of their new office building at 28 Bee Street. **Dr. Charlton deSaussure, Dr. Louis P. Jervey** and **Dr. Eugene Y. Smith Jr.** have announced their association for the practice of internal medicine at 65 Gadsden St., Charleston. **Dr. Martin B. Woodward** has joined with **Dr. David E. Holler** and **Dr. Ralph Owings** in the practice of orthopedic surgery in Columbia. **Dr. Bartley E. Antine** has announced the removal of his office from the Medical University Hospital to the Lee Building, 3370 Rivers Ave, North Charleston, S. C. for the practice of diseases and surgery of the eye. The Chesterfield County Memorial Hospital Nursing Scholarship has been named the **Dr. Maxcey Hook** Nursing Scholarship in honor of the late Cheraw physician. **Dr. William S. Hall** of Columbia has been named to the White House Task Force on the Mentally Handicapped. **Dr. O. Charles Mitchell** has announced the removal of his office from the Medical University Hospital to 315 Calhoun St., Charleston, for the practice of neurological surgery.

Newly elected officers of the Greenville County Medical Society include: **Dr. C. P. Armstrong** president; **Dr. L. M. Cline**, vice president, **Dr. L. N. Bellew**, secretary; **Dr. James B. Gowan**, treasurer; and **Dr. D. C. Kilgore Jr.**, editor of the Bulletin. **Dr. A. A. Ceraldi** who has been a practicing physician-surgeon at the Veterans Administration Hospital in Columbia since July of 1967, began practice in Abbeville in January. **Dr. Sol Neidich** of Beaufort has been appointed to represent the SCMA on the Advisory Council for Comprehensive Health Planning A portrait of **Dr. Isadore Schayer,** former USC physician and professor of hygiene, has been placed in the USC Infirmary in honor of Dr. Schayer, who now resides in California. **Dr. William McAlhany Davis** has been named to the Pathology Staff of Spartanburg General Hospital. He was graduated from the Medical University of S. C. State Health Officer **E. Kenneth Aycock, M.D.** has been elected to the executive committee of the State and Territorial Health Officers. **Dr. C. B. Rush** of Timmonsville has been appointed consultant physician for the Tri-County Cervical Cancer Screening Project.

Dr. D. M. Evans Jr., Dr. Asbury Williams and **Dr. Steve Fowler,** all of Lake City, have formed the Lake City Medical Clinic. **Dr. Julian P. Price** has been named president of the active staff of The McLeod Infirmary. **Dr. Albert Baroody** is vice president; **Dr. Charles Waters,** secretary, and **Dr. Harry Temple,** treasurer. **Dr. John Cathcart Jr.** has been named chairman of the Cherokee County Public Health Planning Commission. **Dr. Nord Davis** is vice chairman. Newly elected officers of the S. C. Society of Pathologists include **Dr. Donald G. Kilgore Jr.** of Greenville, president; **Dr. James D. Greiner** of Florence, vice president; **Dr. C. H. Magruder** of Greenwood, secretary-treasurer; **Dr. W. McA. Davis** of Spartanburg, public relations; **Dr. Gordon R. Hennigar** of Charleston, committeeman-at-large. **Dr. Robert O. Jones** has been elected president of the Georgetown County Medical Society. **Dr. S. Ronald Campbell** was named vice resident, and **Dr. R. L. Morrison III,** secretary-treasurer. The Aiken County Medical Society recently honored **Dr. James R. Howell** for his 42 years of

service. Dr. Howell retired from active practice in 1968.

New officers of the Columbia Medical Society are **Dr. Henry W. Moore**, president; **Dr. James C. Vardell**, vice president; **Dr. Harry J. Metropol**, secretary; **Dr. Jack S. Shelburg**, treasurer; **Dr. Edward E. Kimbrough III**, editor of The Recorder; and **Dr. Albert W. Cremer**, president-elect. **Dr. G. B. Hodge** of Spartanburg has been awarded Kiwanians' 1969 Citizen of the Year Award. A fountain has been placed on the grounds of the J. Marion Sims Building, the new State Health Department headquarters in Columbia, in memory of the late **Dr. Clarence Lee Guyton Jr.** who was assistant state health officer at the time of his death. **Dr. Raymond C. Ramage** has been appointed director of medical education for the Greenville Hospital System. At a meeting of the Middle Atlantic Regional Heart Committee a resolution was adopted commending **Dr. C. Warren Irvin Jr.** of Columbia for his services as a vice-president of the American Heart Association.



C. Warren Irvin, Jr.

MEETINGS

The 23rd National Conference on Rural Health will be held at the Pfister Hotel and Tower in Milwaukee, Wisconsin, April 9-10, 1970. The conference is being sponsored by the AMA's Council on Rural Health.

A Psychosomatic Medicine Symposium is being held April 1-2 at the William S. Hall Psychiatric Institute, Columbia. Genesis, basic principles, and the various kinds of somatic disorders resulting from maladaptive living will be discussed. Twelve hours.

The Committee on the Handicapped Child of the American Academy of Orthopaedic Surgeons in conjunction with the Scottish Rite Hospital for Crippled Children is sponsoring a symposium on Spinal Disorders in Children, February 28 through March 2 at the Marriott Motor Hotel, Atlanta. Dr. Wood W. Lovell is chairman for the course.

The 27th Atlanta Graduate Medical Assembly will be held March 8, 9, 10 at the Marriott Motor Hotel in Atlanta. The assembly is being sponsored by the Fulton County Medical Society.

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings commencing July 1, 1970, in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358; second year $12,496; and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, Drawer 119, Columbia, South Carolina 29202.

EQUAL OPPORTUNITY EMPLOYER

STATEWIDE PEDIATRIC CANCER CONFERENCE

SAMUEL K. MORGAN, M.D.*

The South Carolina Regional Medical Program (SCRMP) is a direct outgrowth of Public Law 89-239 which was enacted by Congress for the purpose of affording the medical profession and the medical institutions of the nation the opportunity of planning and implementing programs that make available to the American people the latest advances in the diagnosis and treatment of heart disease, cancer, stroke and related diseases (renal, emphysema, and diabetes). This is being done by establishing voluntary regional cooperation among physicians, hospitals, medical schools, voluntary health agencies, civic organizations, research institutions, and federal, state, and local agencies. One of fifty-five programs underway across the country, SCRMP is sponsored by the Medical University of South Carolina and represents a unique approach to health problems by focusing the attack on such problems through the persons actually confronting them. Thus, the stress is upon local initiative and cooperative arrangements with the essential role of SCRMP being one of assistance to state health professionals in acquisition and management of available funds. In August, 1968, after months of planning, the Pediatric Cancer Education & Service Program received funds for operation from the South Carolina Regional Medical Program. This program utilizes two-way direct-line dial-access telephones for live conference communication between the participating hospitals.

Project Background and Objectives

Cancer is the second leading cause of death in children.[1] There are ten cancer clinics located within hospitals at strategic locations throughout the state, and an additional clinic at the Medical University Hospital in Charleston, South Carolina (Figure 1). Of these, the ones located at the largest population centers and possessing the greatest number of patients are at Florence, Columbia, Spartanburg, and Greenville, South Carolina. The cancer clinic at the Medical University Hospital in Charleston sees approximately 500 new patients a year and has approximately 7,000 follow-up visits. The other four cancer clinics combined also have approximately 500 new patients a year and 7,000 follow-up visits. Close liaison between these five cancer clinic-hospitals is desirable. The pediatric cancer conference links these facilities.



Figure 1. Cancer Clinic locations in South Carolina and current communications network.

At the outset the following objectives were formulated:

1. The establishment of a program of postgraduate education for the physicians and allied health personnel in South Carolina designed to dissemi-

**Assistant Professor of Pediatrics, Project Director, Pediatric Cancer Education & Service Program in South Carolina.

nate new information in the field of pediatric cancer diagnosis and therapy.

2. The establishment of a forum which would serve as a "statewide tumor board" in which pediatric patients with cancer would be discussed. This board should encourage cooperation between the participating hospitals. It should increase the total number of patients in the pediatric age group available for statistical analysis. The discussions of diagnosis, therapy, and new developments should allow all participating medical personnel to give their patients better care.
3. The provision of expert consultation service for children with cancer.
4. The provision of more uniform care to children with cancer through propagation of current knowledge and techniques.

In the field of pediatric cancer, knowledge of rapidly changing techniques for diagnosis and treatment is of prime importance. The statewide pediatric cancer conferences serve as a continuing postgraduate course in this area of medicine. In the state of South Carolina there have been no specific postgraduate educational efforts in the field of pediatric cancer. At the Medical University of South Carolina the faculty includes a pediatric hematologist-oncologist, pediatric surgeon, radiotherapist, and pediatric pathologist. These individuals are interested in postgraduate education and improved patient care. They constitute the team approach to pediatric malignancies at this institution.

Conference Procedure

At each participating hospital a designated conference room has undergone alteration and renovation so that the acoustical qualities are optimum. The conferences, lasting sixty minutes, are currently being held on a monthly basis. The presentation of patients may originate in any of the participating hospitals. This is designated well before conference time. Patients are chosen to provide a broad base for discussion. For example, our discussion of "Neck Masses in Children" involved a patient with Hodkgin's disease. A two-part discussion on "Abdominal Masses in Children" focused upon patients with Wilms' tumor and neuroblastoma. Appropriate publicity of conference content and time is given well in advance. A protocol of the case for presentation is mailed in bulk to each of the participating hospitals as well as to physicians and paramedical personnel who have indicated their interest in the program. At the initiation of the program, cards were sent to every physician and to many allied health personnel in the state of South Carolina so that they might indicate their interest in receiving current information about this program. The times of the conferences have been varied from early morning to noon to late afternoon in an attempt to find the best time for the most people. Coordination between five cities is often difficult.

Prior to the conference date, appropriate slides of the patient, patient x-ray films, pathological materials, and appropriate charts and tables are prepared, duplicated, numbered and sent to the various hospitals. There is a physician in each of these cities who receives this material, coordinates, and moderates the conferences at his location. On the day of the conference the team from the Medical University of South Carolina is assembled around the conference table. Physicians with special interest or training, for example, a urologist in the case of Wilms' tumor, might be invited to actively participate. Eminent authorities on the subjects under discussion might be invited to attend and participate. Telephone transmitters are available for each participant. Speakers for incoming communication are placed in appropriate locations around the conference room. The audience of interested physicians and paramedical personnel also is seated in this conference room. In addition, the amphitheater in the Medical University Hospital, Charleston, has been

equipped for transmission and speaker potential and is available for larger crowds of interested persons than can be accommodated in the conference room. A similar arrangement exists in each of the other hospitals. The conference proceeds with the presentation of the cases followed by appropriate discussion and comments together with simultaneous viewing of the numbered slides. This adds the visual realm to these conferences. At the conclusion of each conference each of the coordinators returns a list of participants together with a critique of the conference material and format. This communication system is also available on an unscheduled basis for consultation and discussion between any or all of the hospitals for acute problems relating to pediatric cancer patients.

Television equipment for videotape recording, editing, viewing, and duplication has been installed in the conference room of the Medical University Hospital. The present plans are to supply each of the other participating facilities with the same equipment. It should then be possible to use this equipment to make videotape records of patients, patient materials, such as slides and x-ray films, and special diagnostic or therapeutic procedures, such as biopsy or perfusion. These tapes, following duplication, would be sent to each of the hospitals. Simultaneous viewing would be possible during the conference. A discussion of this tape could be carried out. The prospects for further utilization of the television equipment in conjunction with the telephone equipment appears great and will be explored more fully.

Project Evaluation

A program of this nature, which includes both medical education and service to patients, must necessarily be evaluated on both a subjective and an objective basis. It is felt that the success of the program can be effectively monitored by the assay of attendance of the various conferences, and attendance by physicians and allied health personnel as the specialist team actually consults statewide on a regular rotational basis. It is hopeful that this will represent a steadily increasing number. The number and type of patient consultation will be observed. Apparent improvement in pediatric cancer patient care will be looked for. Questionnaires pertinent to all phases of this program will be used for data-processing evaluation. It should be possible to compile a significant number of records of patients with pediatric cancer in South Carolina whereas previously a large segment of these patients has been referred to nearby out-of-state medical centers for the same type care.

In conclusion, an audiovisual system for teaching and learning in the field of malignant diseases in children has been established. This system utilizes an area-wide (state) communications network (telephone) for consultant conferences in this field. Visual aides, including television, complement the system. The potential for broadening the scope of coverage, in conference content and geographic area to be included, is present. Any field of special interest in medicine could utilize such a system as an effective tool in continuing education for patient care.

REFERENCE

1. Vital Statistics of the United States, 1965.

MEDICAL E.T.V.

A new monthly series, "Continuing Professional Education—Medical," is being presented on the S. C. Educational Television Network the first and third Thursdays at 8:00 p.m.

In addition to programs which will be planned as based from the gathering of a variety of data from a variety of sources for topical presentations, viewers are invited to send suggestions, questions and specific criticism.

Col. Stephen P. Dittmann, Chairman of the Department of Audio-Visual Resources at the Medical University, will coordinate the programs.

Various formats will be tried including: open telephone lines for questions and answers; the preparation and distribution of various materials which might serve as a means of evaluation; and preparation and distribution of materials for future reference as well as a pre-viewing abstract of what is to be discussed on a specific program.

The faculty of the Medical University, consultants from various parts of the U. S. and members of the Health profession from throughout the state will be the speakers and presentors on topics in their areas of competency.

While most programs will be produced within the ETV studio in Columbia, a number of areas throughout the state will be chosen for specific reasons of interest as the production site from time to time.

Certain programs will be presented for other professional groups including nurses, dentists, pharmacists and technicians.

SCRMP is actively supporting this medical ETV series through assistance to the Division of Continuing Education of the Medical University.

South Carolina had the first Medical ETV Program in the nation and more than 175 programs have been presented by the local network.

NEWS

The general construction contract for the 308-bed medical-surgical unit and the 50-bed rehabilitation unit of the Greenville Hospital System at the new Grove Road site has been awarded.

It is estimated that the project costs will approximate $21,733,444.00 with a federal share of $1,327,888.36 provided through the Hill-Burton program and $1,814,240.00 provided through the Appalachian program.

In January 1970 the National Library of Medicine will begin monthly publication of *Abridged Index Medicus*—a condensed version of *Index Medicus* designed for individual physicians and for libraries of small hospitals and clinics.

Distribution of *Abridged Index Medicus* will be handled on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

The annual subscription price is $12 ($15 foreign). Payment should be included with the order in the form of check, money order, or Superintendent of Documents coupons.

Committees of medical societies and individual physicians will benefit from the newly issued AMA catalog of health education literature and other materials. Entitled *The Many Faces of Health Education*, it lists titles, descriptions and prices for pamphlets, posters, booklets, books for both the physician and the public, quackery kits, and plaques of fee discussions, the Oath of Hippocrates, Daily Prayer of Maimonides and the Principles of Medical Ethics. Direct requests for the catalog to AMA, 535 N. Dearborn St., Chicago, Ill. 60610.

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Usual and Customary	75,000
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J. H. Jameson, M.D.
President

NATIONAL HEALTH INSURANCE

The drums are beating for National Health Insurance. The battle which surely is coming is expected to start in ernest early this year. The remarkable thing is the virtual absence at this point of publicly stated opposition to NHI in some form. Right now the proposals are being developed, but in the next few months bills for NHI will be submitted along these lines.

Group One—Private insurance approach with federal government helping either the poor or everyone to purchase a minimum standard program through tax credits. Leading this group is the AMA.

Group Two—Medicare or Medicaid type approach administered by the federal government (SSA or a new agency) or state agencies, with option to use private carriers. The concept would involve a minimum standard program with the federal government paying for poor and others paying their own way as individuals or employer-employee groups. Of this group, only Rep. John Dingell (D.-Mich.) has a bill already in the hopper. Dingell favors state agency approach but look for Sen. Jacob Javits (R.-N. Y.) with Wilbur Cohen's aid, to submit a bill to expand Medicare to all and possibly convert Blue Cross and Blue Shield into "public utilities" to administer his program.

Group Three—Comprehensive, cradle-to-grave, full coverage—compulsory for everyone—administered by federal government with built-in incentives to change delivery system from fee-for-service to prepaid group practice. Primary spokesmen for this group have been Walter Reuther and his Committee for National Health Insurance (CNHI). However, AFL-CIO, whose proposed bill sounds identical to CHNI's, is reported to have its specifications written and may well beat CNHI to the punch by submitting its NHI bill first. Bills in this group will emphasize use of the financing system as a lever to effect change in the delivery system.

Pressure for NHI should hit peak during the 1972 election. CNHI and AFL-CIO will be pushing their proposals hard by then. Don't expect Nixon to fight something with nothing. He has told Sec. Finch to look into NHI. Finch, in turn, directed Medicaid Task Force to study the matter. The task force already has recommended using such federal programs as Medicare and Medicaid to effect changes in the health care delivery system.

Why all the clamor for NHI? Listen, for example, to Nixon: "We face a massive crisis in this area (health care)." Is there really a crisis? Those saying there is point to soaring hospital costs—crowded, poorly equipped hospitals in slum areas—critical shortage of physicians, especially in slum and certain rural areas—more physicians in a single medical building than in an entire community of 300,000 people in a ghetto area—half a dozen of the 91 medical schools in the U. S. near closing because of lack of funds. Add to this dissatisfaction with Medicaid, the fact that private insurance pays only one-third of the total health care bill in the U. S., and the fact that U. S. spends 6.7% of its GNP on health care, which is the highest percentage of any country in the world. Those who say there isn't a crisis cite the fact that hospital costs are soaring throughout the world; for the decade ending in 1965, total expenditures per patient day for all U. S. hospitals were up 225%, in England and Wales 244%, and in Sweden 295%—medical costs are rising rapidly because the product is tremendously improved—it is the phenomenal success of medicine that makes people want more of it. We are experiencing a revolution of expectation.

Thus, the crux of the problem isn't whether access to health care is a right—

DEATH

Dr. Maxcey Wilbur Hook

Dr. Maxcey Wilbur Hook, 63, Cheraw physician, died December 17, 1969.

He was a graduate of Wofford College and the Medical College of S. C. He served his internship at Roper Hospital in Charleston and served his residency in McLeod Infirmary in Florence. He was a Mason and was First Chief of Staff of the Chesterfield County Memorial Hospital.

He was a past president of the Chesterfield County Memorial Hospital. He was a past president of the Cheraw Chamber of Commerce and a past president of the Cheraw Kiwanis Club.

50 YEARS

The Journal of the South Carolina Medical Association

February 1920

Materials for performing the Schick test and toxin-antitoxin were provided by the State Board of Health. Greenville General Hospital offered a course in training nurses. Plans were being made to develop post graduate instruction in certain sections of the state. Lectures and clinics were planned by the state Medical Association.

RESIDENCY IN GENERAL PSYCHIATRY

An NIMH residency stipend will be available July 1, 1970 in a fully approved three year training program at the Medical University of South Carolina. The stipend is $12,000 with a dependency allowance of $500 per dependent. Applicants must have graduated from a U. S. Medical School and engaged in practice or training other than psychiatry at least four years since internship. Please apply to R. Layton McCurdy, M.D., professor and chairman, 80 Barre Street, Charleston, South Carolina 29401.



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5-8 yr.	1 tsp. q.i.d. (8 mg.)
8-12 yr.	1 tsp. 5 times daily (10 mg.)
Adults:	2 tsp. 5 times daily (20 mg.) or 2 tablets q.i.d.

*Based on 4 cc. per teaspoonful

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Precautions/Adverse Reactions: The usual precautians far tapicol and systemic sulfanamides shauld be abserved because af the possibility af absarptian. Burning, increased lacal discamfort, skin rash, urticaria ar ather manifestatians af sulfanamide taxicity are reasans ta discantinue treatment.
Dasage: One applicatarful ar ane suppasitary intravaginally ance or twice daily.
Supplied: Cream—Faur-aunce tube with ar withaut applicatar. Suppasitaries—Bax af 12 with applicatar.
References: 1. Gordner, H. L.: J. Miss. M.A. 8:529, 1967. 2. Parter, P. S., and Lyle, J. S.: Arch. Dermat. 93:402, 1966. 3. Walsh, H.; Hildebrandt, R. J., and Prystawsky, H.: Am. J. Obst. & Gynec. 93:904, 1965. 4. Vaginitis and the Pill: J.A.M.A. 196:731, 1966. 5. Guerriera, W. F.: South. M.J. 56:390, 1963. 6. Seelig, M. S.: Am. J. Med. 40:887, 1966. 7. To-day's Drugs, New Yark, Grune & Stratton, Inc., 1965, p. 316. 8. Gray, L. A., and Barnes, M. L.: Am. J. Obst. & Gynec. 92:125, 1965. 9. Salerna, L. J.; Ortiz, G., and Turkel, V.: Voginitis: A Diagnastic and Therapeutic Appraach, Scientific Exhibit, presented at the 115th Annual A.M.A. Canventian, Chicago, Illinais, June 1966. 10. Walsh, J. C.; Sheffery, J. B., and Wilsan, T. A.: Med. Ann. D.C. 37:35B, 1968. 11. Nugent, F. B., and Myers, J. E.: Pennsylvania Med. 69:44, 1966.

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Bacteriuria and symptoms can be eliminated within 48 to 72 hours; susceptible infection often in 10 to 14 days.

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Cybis® (nalidixic acid) provides prompt broad gram-negative bactericidal activity at normal urinary pH range that can eradicate troublesome *E. coli,* Aerobacter and Proteus. A good starting drug, it can effectively accelerate management of infection due to sensitive organisms.

essential control within the primary 72-hour cycle

In cases of acute infection due to susceptible organisms, Cybis works well toward the rapid clearing of disease when obstruction is absent or can be relieved. Within 48 to 72 hours, symptoms are frequently eased and bacteriuria eliminated. Susceptible infection is often eradicated in 10 to 14 days.

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Cybis can be useful in naturally susceptible young female patients with new or well-established urinary disturbances. Combining rapid potency with relative freedom of serious side reactions and toxicity, the drug can be of particular value in preventing higher tract involvement or blocking the possible continuum of disease. (See Chart)

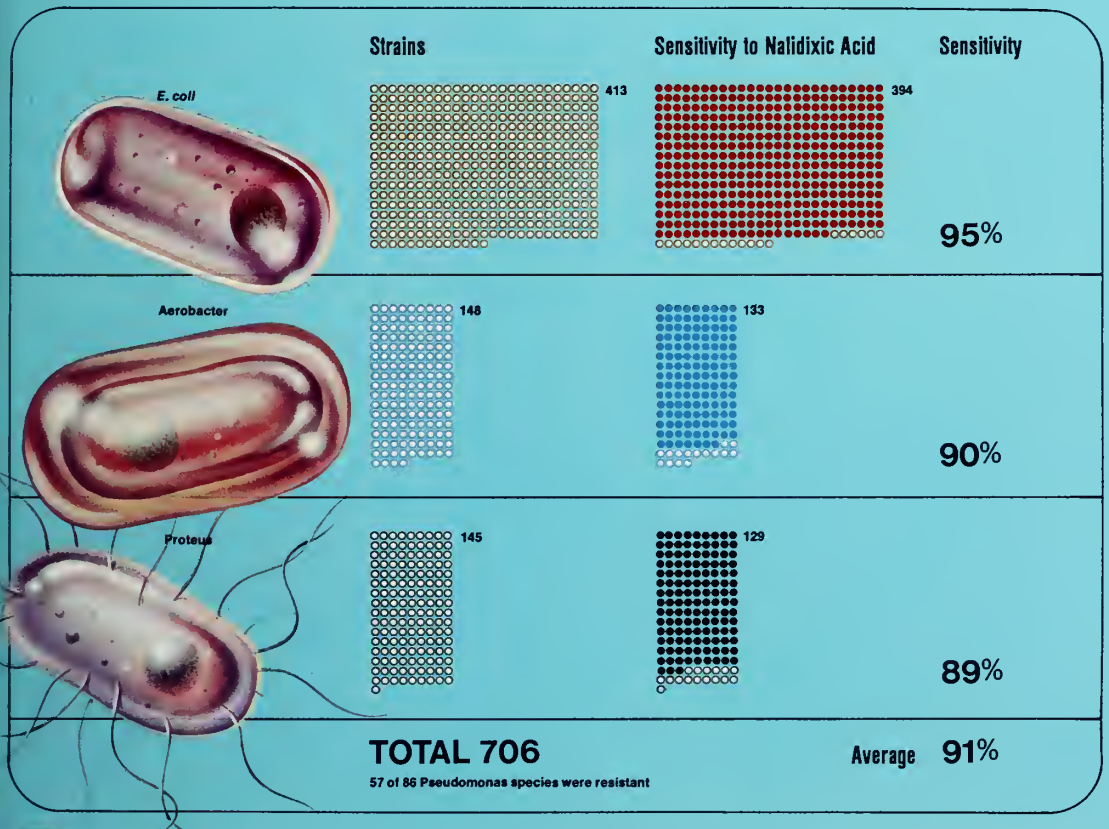
Kinetic Relationship of Acute and Chronic Bacterial Pyelonephritis to Chronic Renal Disease[2]



consistent activity against 706 gram-negative strains

In vitro testing of *E. coli*, Aerobacter and Proteus species showed better than 90% sensitivity to nalidixic acid.[3] (See Table)

Better Than 90% Sensitivity Among 3 Common Urinary Invaders



References: 1. Reimann-Hunziker, R. and Reimann-Hunziker, G. J.: *Praxis 53*:15, Jan. 9, 1964. 2. Sanford, J. P.: *Med. Times 96*:715, July 1968. 3. Reese, L.: *Canad. M. A. J. 92*:394-397, Feb. 20, 1965.

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(nalidixic acid)

for the strong start and a fast finish... in cystitis, pyelonephritis, prostatitis, urethritis

Before prescribing, please consult complete product information, a summary of which follows on the next page, including indications, warning, precautions, adverse reactions and dosage.

Summary of prescribing information

Indications: Urinary tract infections in which species of sensitive gram-negative bacteria are predominant, particularly *Proteus, Escherichia coli, Aerobacter, Klebsiella,* and certain strains of *Pseudomonas.* Gram-positive bacteria are less sensitive to Cybis but favorable clinical results have been observed.

Warning: Use in Pregnancy. This drug is not recommended in the first trimester of pregnancy. However, it has been used in several patients during the last two trimesters without producing apparent ill effects in either mother or fetus.

Precautions: Although prolonged treatment with Cybis has been generally well tolerated, as with all new drugs it is advisable to carry out blood, renal, and liver function tests periodically if treatment is continued for more than one or two weeks. The dosage recommended for adults and children should not be arbitrarily doubled unless under the careful supervision of a physician. **It should be used with caution in patients with liver disease, epilepsy, or severe cerebral arteriosclerosis, and in patients in whom kidney function is severely impaired.** Patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving Cybis and, if a photosensitivity reaction occurs, therapy should be discontinued.

During treatment microorganisms may develop resistance to this drug. Resistant bacteria, not previously present or identified, may emerge. Cultures should be taken and bacterial sensitivity tests made periodically, particularly if the clinical response is unsatisfactory or if a relapse occurs. Should resistance develop, other specific chemotherapy should be instituted; no cross resistance has been observed. If new strains of bacteria that are not sensitive emerge, other effective antibacterial agents may be added. When Benedict's or Fehling's solutions or Clinitest® Reagent Tablets are used to test the urine of patients taking Cybis, a false-positive reaction for glucose may be obtained due to the liberation of glucuronic acid from the metabolites excreted. However, a colorimetric test for glucose based on an enzyme reaction (using, for example, Clinistix® Reagent Strips or Tes-Tape®) does not give a false-positive reaction to Cybis glucuronide.

Adverse reactions: Mainly mild nausea, vomiting, and other gastrointestinal disturbances: less frequently, sleepiness, drowsiness, weakness, headache, dizziness and vertigo, and rarely cholestasis, paresthesia, thrombocytopenia, leukopenia, or hemolytic anemia which in some patients may have been associated with deficiency in activity of glucose-6-phosphate dehydrogenase. Itching, pruritus, rash, urticaria, mild eosinophilia, reversible photosensitivity reactions primarily involving exposed surfaces, and reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), occurred occasionally. Reversible increased intracranial pressure with bulging anterior fontanel, papilledema, and headache have been observed occasionally in infants and children. Toxic psychosis and brief convulsions (the latter generally in patients with possible predisposing factors, and both usually associated with excessive dosage) have been recorded in rare instances.

Dosage and administration: *Adults*—Four Gm. dai by mouth (2 tablets of 500 mg. four times daily) for on to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. dai (1 tablet of 500 mg. four times daily). *Children*— According to age and weight: approximately *25 mg. per pound* of body weight per day, administered in divided doses.

Note: The dosage recommended above for adults an children should not arbitrarily be doubled unless und the careful supervision of a physician. Until further experience is gained, infants under 1 month should n be treated with the drug.

How supplied: Tablets of 500 mg., bottles of 50.

Before prescribing, please refer to complete prescribing information.

Cybis®

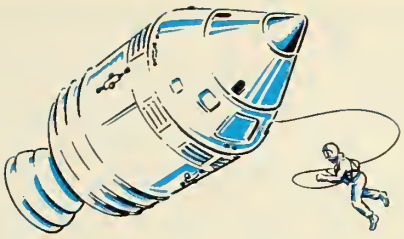
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Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

A clinical supply will be sent to physicians and hospitals on request.

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CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

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methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

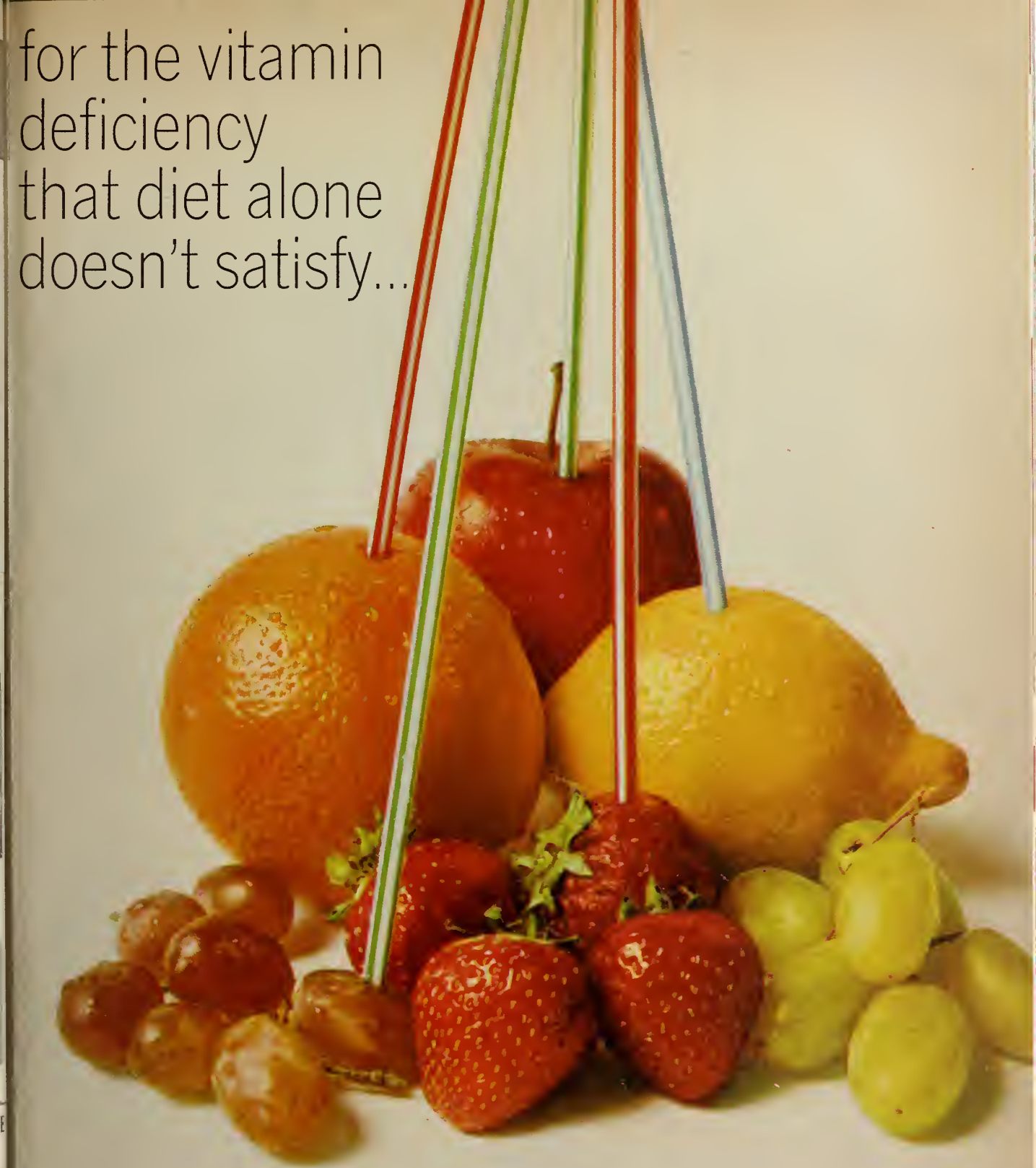
One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

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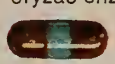


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This high-potency vitamin C and B-complex combination starts where diet stops

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Each Kapseal contains: ascorbic acid, 500 mg.; thiamine mononitrate, 25 mg.; riboflavin, 15 mg.; pyridoxine hydrochloride, 10 mg.; cyanocobalamin, 5 mcg.; niacinamide, 100 mg.; *dl*-panthenol, 20 mg.; Taka-Diastase® (Aspergillus oryzae enzymes), 2½ gr.



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soothing relief for hair-raising cough

Benylin®
EXPECTORANT

Each fluidounce contains: 80 mg. Benadryl® (diphenhydramine hydrochloride), Parke-Davis; 12 grains ammonium chloride; 5 grains sodium citrate; 2 grains chloroform; 1/10 grain menthol; and 5% alcohol. An antitussive and expectorant for control of coughs due to colds or of allergic origin, BENYLIN EXPECTORANT *is the leading cough preparation of its kind.* BENYLIN EXPECTORANT *tends to inhibit cough reflex ...soothes irritated throat membranes. And its not-too-sweet, pleasant raspberry flavor makes* BENYLIN EXPECTORANT *easy to take.*

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ADVERSE REACTIONS: *Side reactions may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, and blurring of vision have been reported. Allergic reactions may occur.*

PACKAGING: *Bottles of 4 oz., 16 oz., and 1 gal.*

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in cardiac edema

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Each capsule contains 50 mg. of Dyrenium® (brand of triamterene) and 25 mg. of hydrochlorothiazide.

gets the water out

spares the potassium

Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported, in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium and BUN during therapy, particularly in patients with suspected or confirmed renal or hepatic insufficiency (e.g., certain elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—their combined use can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk; thus adverse reactions which have occurred in adults may occur in the fetus or newborn infant. Rarely, thrombocytopenia or pancreatitis has developed in newborn infants whose mothers had received thiazides during pregnancy. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

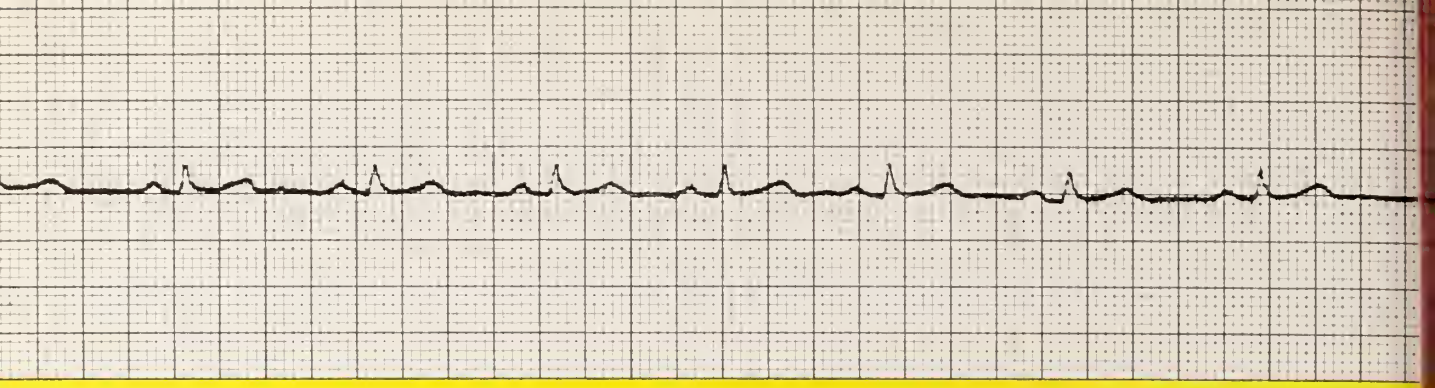
Precautions: Do periodic serum electrolyte determinations. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Adjust dose of antihypertensive agents given concomitantly.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, altered carbohydrate metabolism, hyperbilirubinemia, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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Valium® (diazepam) helps relax the patient and relieve his somatic symptoms

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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ANNUAL MEETING—MAY 11, 12, 13, 1970

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Adverse Reactions: Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence. As is characteristic of sympathomimetic agents, it may occasionally cause CNS effects such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported. Sympathomimetic cardiovascular effects reported include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others. Allergic phenomena reported include such conditions as rash, urticaria, ecchymosis, and erythema. Gastrointestinal effects such as diarrhea, constipation, nausea, vomiting, and abdominal discomfort have been reported. Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia. A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

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T-006A / 1/70 / U S PATENT NO 3,001,910

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■ **for fever blisters and canker sores of herpetic origin**

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Lactinex has been shown to be useful in the treatment of gastrointestinal disturbances, and for relieving the painful oral lesions of fever blisters and canker sores of herpetic origin.[1,2,3,4,5,6,7,8]

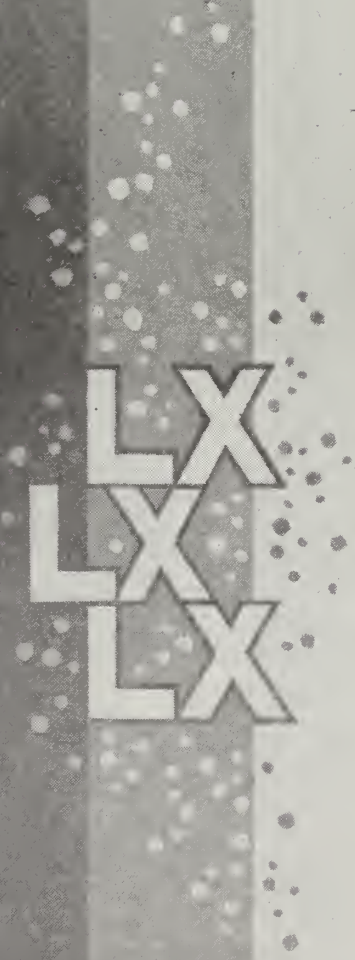
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Literature on indications and dosage available on request.

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References:

1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *8*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. 5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes,). J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., ines., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.:)ral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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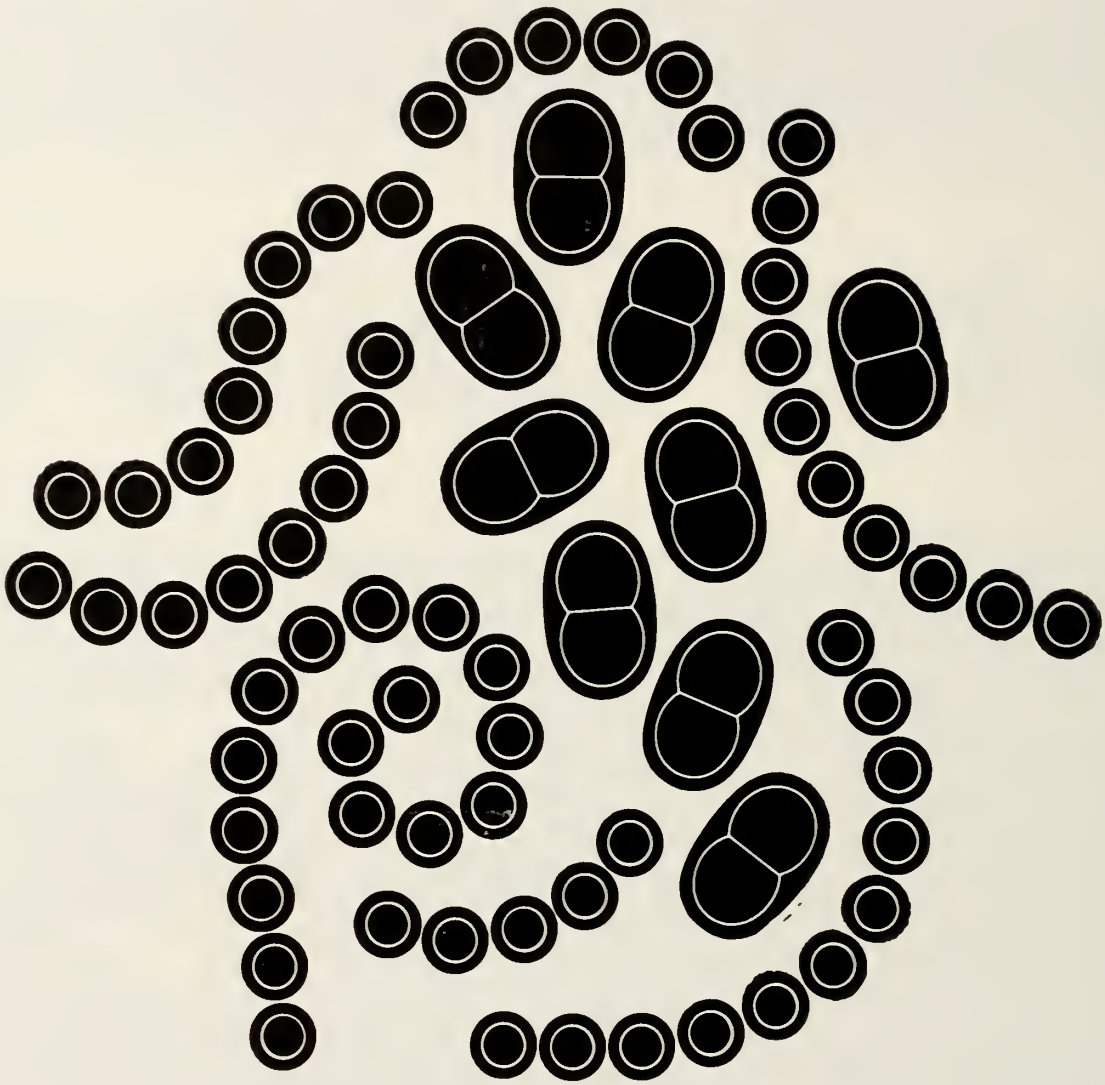
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References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard— e.g. mg, ml, Gm.

Reprints—Reprints will be made for the author at established rates.

during and after infection



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TABLETS
high potency B-complex and C
for nutritional support

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contains water-soluble vitamins only

b.i.d. dosage

good patient acceptance

no odor, and virtually no aftertaste

Each Berocca Tablet contains:

Thiamine mononitrate	15 mg
Riboflavin	15 mg
Pyridoxine HCl	5 mg
Niacinamide	100 mg
Calcium pantothenate	20 mg
Cyanocobalamin	5 mcg
Folic acid	0.5 mg
Ascorbic acid	500 mg

Usual dosage is one tablet b.i.d.

Indications: Nutritional supplementation in conditions in which water-soluble vitamins are required prophylactically or therapeutically.

Warning: Not intended for treatment of pernicious anemia or other primary or secondary anemias. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with pernicious anemia who receive more than 0.1 mg of folic acid per day and who are inadequately treated with vitamin B_{12}.

Dosage: 1 or 2 tablets daily, as indicated by clinical need.

Available: In bottles of 100.

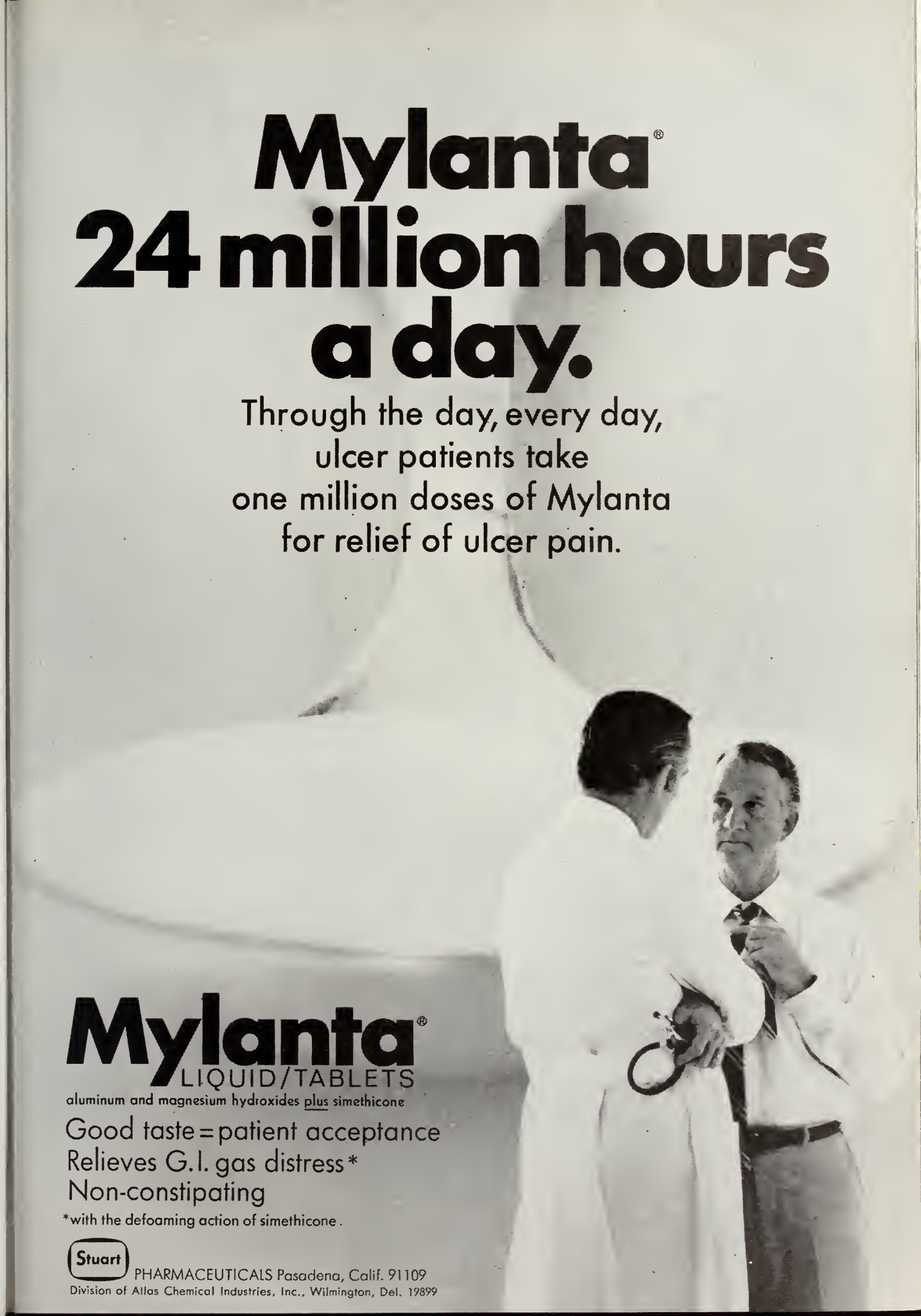
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Kolantyl Gel/Wafers contain antacids, and Bentyl® (dicyclomine hydrochloride) too.

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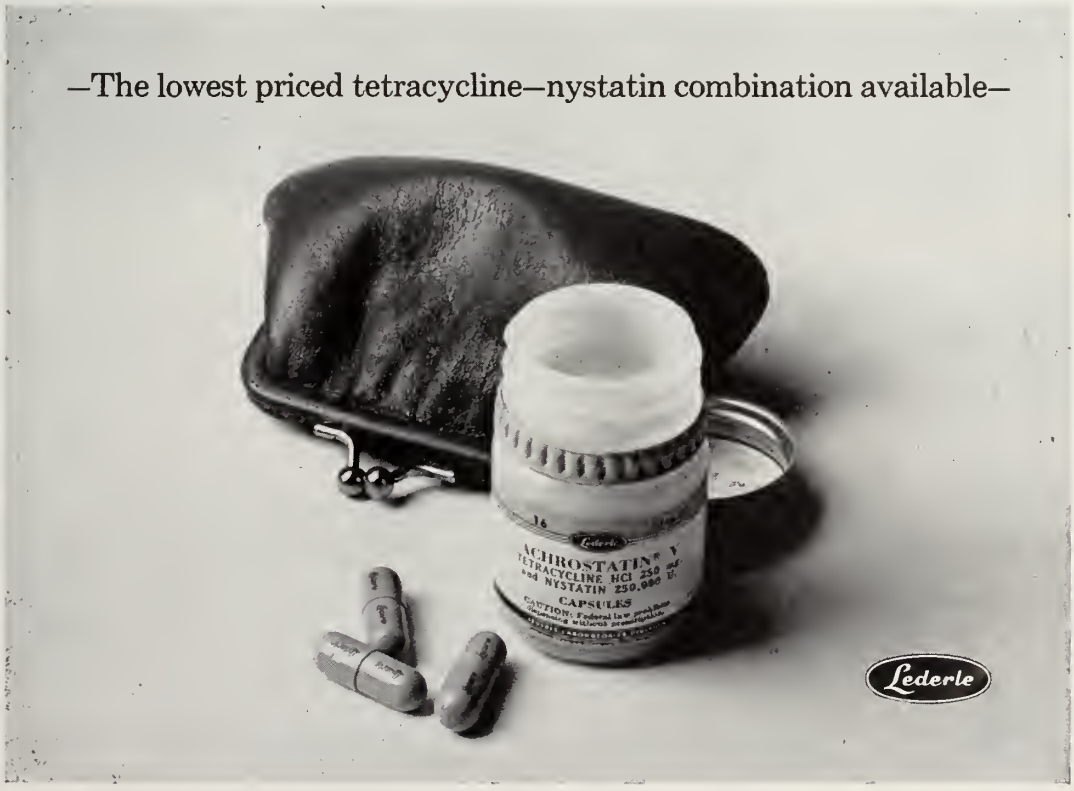
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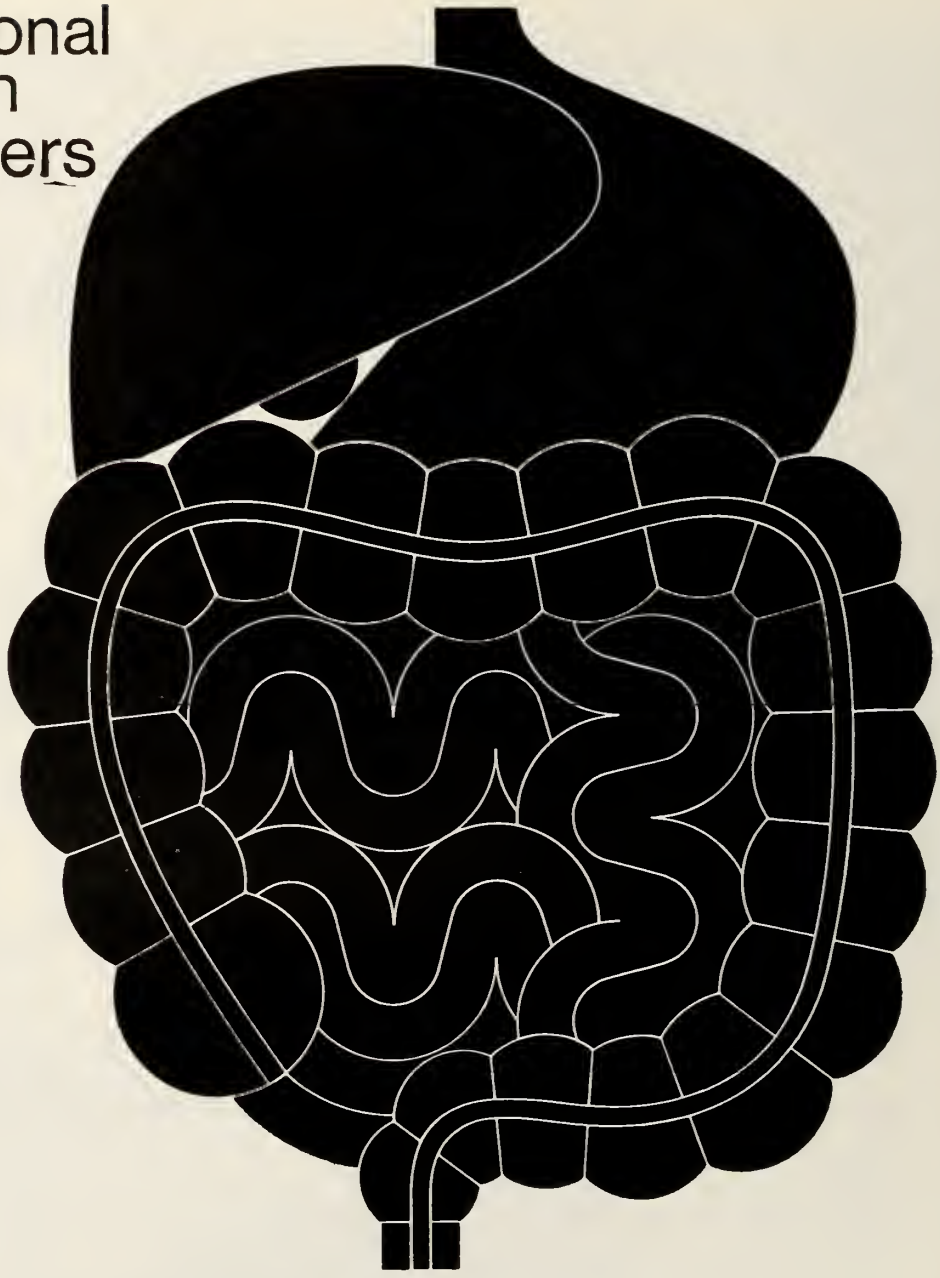
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contains water-soluble vitamins only

b.i.d. dosage provides full therapeutic amounts

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no odor, and virtually no aftertaste

Each Berocca Tablet contains:

Thiamine mononitrate	15 mg
Riboflavin	15 mg
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Niacinamide	100 mg
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Dosage: 1 or 2 tablets daily, as indicated by clinical need.

Available: In bottles of 100.

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Campbell's Soups... wide variety...for limited appetites

Many people lose interest in food as they grow older. Some of them are fussy eaters—with only a few favorite foods. Others become indifferent to foods—because planning and preparing meals becomes a chore. Here Campbell's Soups can help —for these four very good reasons:

Appeal With a variety of tastes, textures, aromas, and colors, Campbell's Soups can add interest and appetite appeal. And they're easy to eat—ingredients are tender, bite-size. Even patients on special diets will find soups they can enjoy among the more than 50 different varieties available.



Nourishment Campbell's Soups contain selected meats and sea foods, best garden vegetables—carefully processed to help retain their natural flavors and nutritive values.

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Recommend Campbell's Soups . . . and, of course, enjoy them yourself. Remember, *there's a soup for almost every patient and diet . . . and for every meal.*

NOW IS THE TIME... TO GIVE HER TIME WITH OVULEN-21®

Each tablet contains ethynadiol diacetate 1 mg., mestronal 0.1 mg.



The new mother needs time . . .
to adjust to motherhood,
to give her new baby all the love
and attention he requires.
She needs time for her husband . . .
and for herself as well . . .
so that she can come to terms
with the increased cares
and responsibilities now facing her.
She needs time to decide
when she will have additional children
and how many she will have.

OVULEN-21®

Each tablet contains ethynodiol diacetate 1 mg., mestranol 0.1 mg.

GIVES HER TIME

Your prescription for Ovulen-21 gives the new mother time to meet her family's present needs...to plan for her family's future.

She can take Ovulen-21 confidently and comfortably month after month. Its dependability is enhanced by its simplicity of use. A woman needs little or no time to learn the simple Ovulen-21 regimen: three weeks on—one week off. And the automatic record-keeping of the petite, virtually "patient-proof" Ovulen-21 Compack® helps to maintain her schedule...helps put time on her side.

Immediately post partum is the time

It is the time when motivation is highest—when a new mother needs expert advice for the future, so she can space her children and limit her family.

It is also the most opportune time, since she is conveniently present in the hospital, for her to be given both instructions and a prescription.

Non-nursing mothers may begin Ovulen-21 immediately after delivery, on the day of departure from the hospital or at the first postpartum visit, as desired. It is recommended that nursing mothers begin Ovulen-21 four weeks after delivery.

A small fraction of the hormonal agents in oral contraceptive pills has been identified in the milk of mothers receiving these drugs. The long-range effect on the nursing infant cannot be determined at this time.

Actions—Ovulen acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen depresses the output of both the follicle-stimulating hormone (FSH) and the lutenizing hormone (LH).

Special note: Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

Indication—Ovulen is indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia, and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism, and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis and pulmonary embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates in the United States found relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration, and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable. Retrospective studies in Great Britain have shown a statistically significant association between cerebral thrombosis and embolism and the use of oral contraceptives. This has not been confirmed in the United States.



Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen. Therefore, if such tests are abnormal in a patient taking Ovulen, it is recommended that they be repeated after the drug has been withdrawn for 2 months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: Increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

1. Royal College of General Practitioners: Oral Contraception and Thromboembolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967.
2. Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. *2*:193-199 (April 27) 1968.
3. Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. *2*:651-657 (June 14) 1969.
4. American Journal of Epidemiology (to be published).

Where "The Pill" Began

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for the vitamin deficiency that diet alone doesn't satisfy...

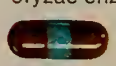


Thera-Combex H-P®

This high-potency vitamin C and B-complex combination starts where diet stops

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Each Kapseal contains: ascorbic acid, 500 mg.; thiamine mononitrate, 25 mg.; riboflavin, 15 mg.; pyridoxine hydrochloride, 10 mg.; cyanocobalamin, 5 mcg.; niacinamide, 100 mg.; *dl*-panthenol, 20 mg.; Taka-Diastase® (Aspergillus oryzae enzymes), 2½ gr.



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Painful night leg cramps...

unwelcome bedfellow for any patient– including those with arthritis, diabetes or PVD

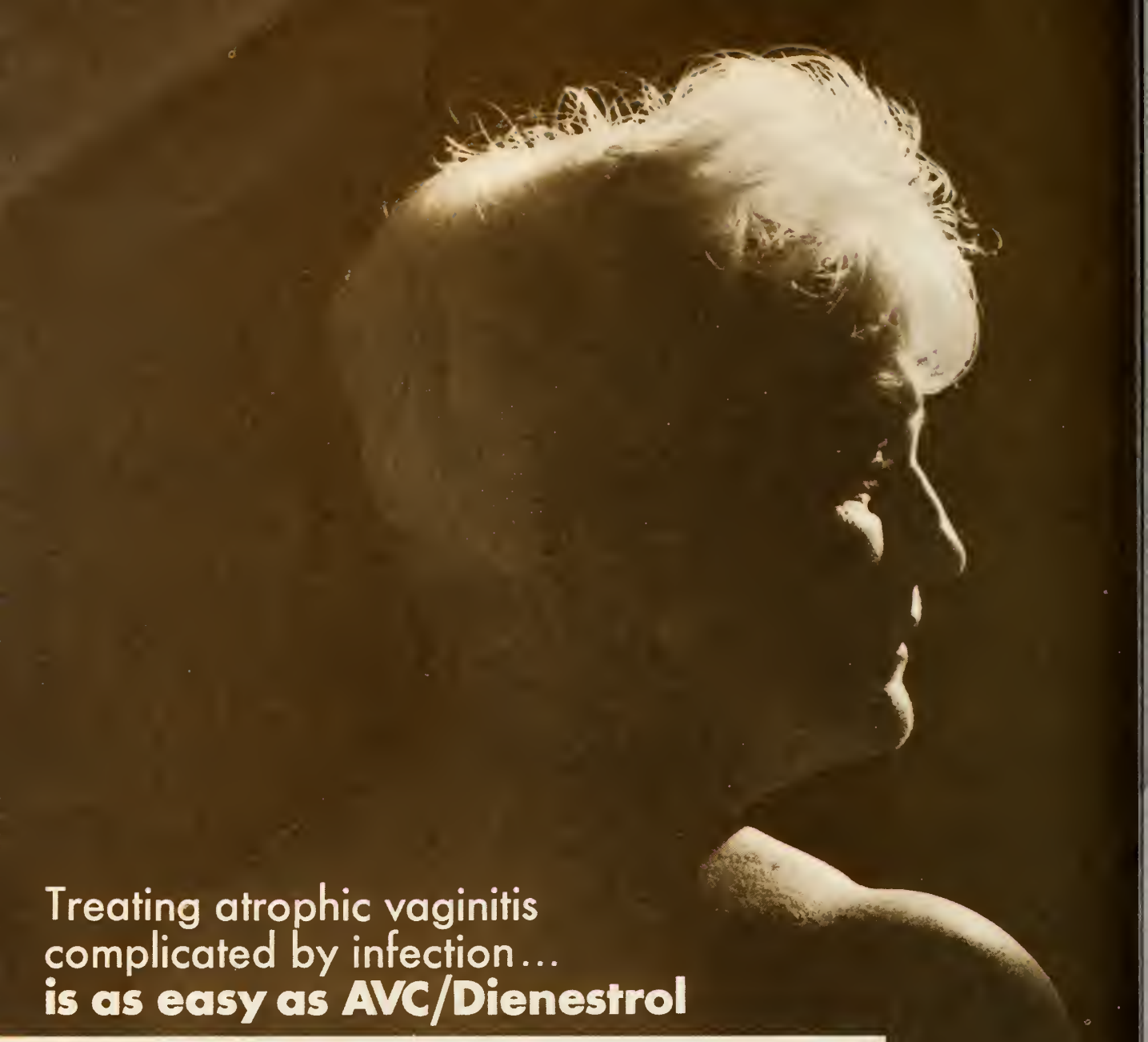
One thing patients can sleep without, particularly patients with chronic disease conditions such as arthritis, diabetes or PVD, is painful night leg cramps. Although seldom the presenting complaint, night leg cramps can tie your patients up in painful knots. Now, just one tablet of QUINAMM at bedtime can usually bring an end to shattered sleep and needless suffering. Your patients will sleep restfully—gratefully—with QUINAMM, specific therapy to prevent painful night leg cramps.

Prescribing Information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Precautions/Adverse Reactions:** Aminophylline may produce intestinal cramps In some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

THE NATIONAL DRUG COMPANY
DIVISION OF RICHARDSON-MERRELL INC.
PHILADELPHIA, PENNSYLVANIA 19144

Quinamm™
(quinine sulfate 260 mg., aminophylline 195 mg.)

Specific therapy for night leg cramps



Treating atrophic vaginitis complicated by infection... **is as easy as AVC/Dienestrol**

Dienestrol helps restore estrogen-deficient vaginal mucosa.
It is the *particular* ingredient in AVC/Dienestrol that improves cell maturation counts[1,2] — helps stimulate the restoration of normal vaginal epithelium to resist infection.

Two recent studies reconfirm AVC/Dienestrol efficacy.[1,2] AVC/Dienestrol is proven effective against monilial, trichomonal, nonspecific bacterial vaginitis, and mixed infections.[1,2] AVC/Dienestrol combats infection, helps restore tissue resistance to reinfection.

So even in complex cases, the treatment can remain the same. Comprehensive. Effective. Easy as AVC/D.

Contraindications: Known sensitivity to sulfonamides; diagnosis or familial history of carcinoma of the genital tract or breasts; precarcinomatous lesions of the vagina or vulva; palpable uterine fibromyoma; mammary fibroadenoma; depressed liver function.

Precautions/Adverse Reactions: The usual precautions for topical and systemic sulfonamides should be observed because of the possibility of absorption. Burning, increased local discomfort, skin rash, urticaria or other manifestations of sulfonamide toxicity or sensitivity are reasons to discontinue treatment. The use of AVC/Dienestrol does not preclude the necessity for careful diagnostic measures to eliminate the possibility of neoplasia of the vulva or vagina. Manifestations of excessive estrogenic stimulation through dienestrol absorption may occur. These include uterine bleeding, breast tenderness, exacerbation of menstruol irregularity and provocation of serious bleeding in women sterilized because of endometriosis. Endometrial withdrawal bleeding may occur if use is suddenly discontinued.

Dosage: One applicatorful or one suppository intravaginally once or twice daily.

Supplied: 'AVC/Dienestrol Cream'—Four ounce tube *with* applicator. 'AVC' and 'AVC/Dienestrol Suppositories'—Box of 12 *with* applicator.

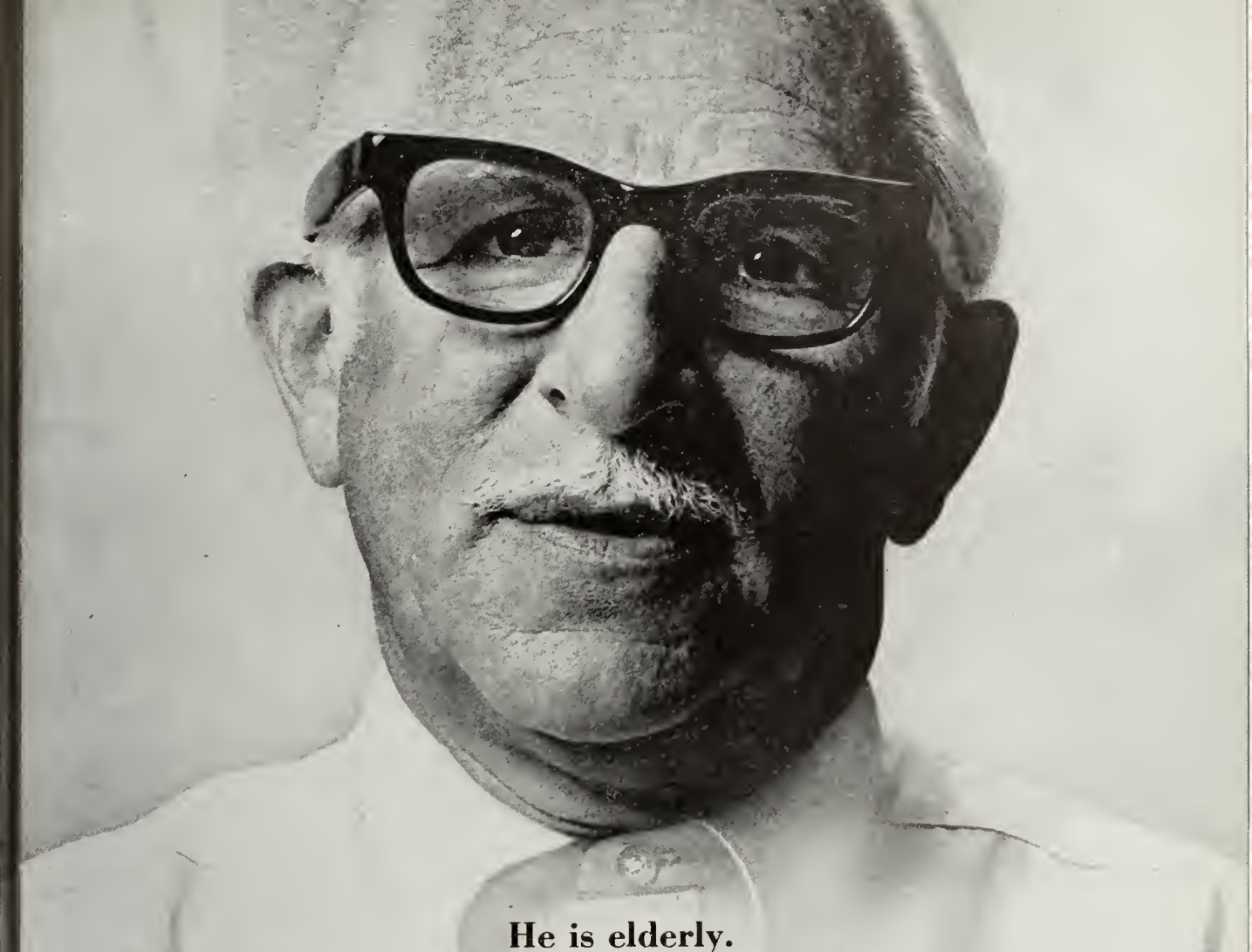
References: (1) Salerno, L. J.; Ortiz, G., and Turket, V.: Voginitis: A Diagnostic and Therapeutic Approach, Scientific Exhibit, presented at the 115th Annual A.M.A. Convention, Chicago, Illinois, June 1966. (2) Nugent, F. B., and Myers, J. E.: Pennsylvania Med. 69:44, 1966.

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TRADEMARK A V C AV-920A 7/69



He is elderly.
He is on corticosteroids.
When he needs an antibiotic
he may be a candidate for

DECLOSTATIN® 300

Demethylchlortetracycline HCl 300 mg
and Nystatin 500,000 units
CAPSULE-SHAPED TABLETS Lederle

b.i.d.

To guard susceptible patients against intestinal monilial overgrowth during broad-spectrum therapy—the protection of nystatin is combined with demethylchlortetracycline in DECLOSTATIN.

For your susceptible candidates, prescribe DECLOSTATIN—the broad-spectrum therapy that prevents monilial overgrowth.

Effectiveness: Because its antibacterial component is DECLOMYCIN Demethylchlortetracycline, DECLOSTATIN should be equally or more effective therapeutically than other tetracyclines in infections caused by tetracycline-sensitive organisms. The antifungal component, Nystatin, protects against superinfection by antibiotic-resistant fungal overgrowth (particularly monilia) in the intestinal tract.

Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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A Division of American Cyanamid Company, Pearl River, New York

345-8

in active stages of moderate to severe rheumatoid arthritis,

What more can you

after you've tried



rheumatoid spondylitis, and osteoarthritis of the hip

do for these patients?

salicylates and rest



INDOCIN®

(INDOMETHACIN | MSD)

helps relieve pain, fever,
swelling, and tenderness

Please see new prescribing information on following page.



REVISED PRESCRIBING INFORMATION

IMPORTANT NOTE: INDOCIN (Indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended under Indications. The drug should not be prescribed for children because safe conditions for use have not been established.

General Adverse Effects: Because of the high potency of the drug and the variability of its potential to cause adverse reactions, the following are strongly recommended: 1) the lowest possible effective dose for the individual patient should be prescribed. Increased dosage tends to increase adverse effects, particularly in doses over 150-200 mg/day, without corresponding clinical benefits; and 2) careful instructions to, and observations of, the individual patients are essential to the prevention of serious and irreversible, including fatal, adverse reactions, especially in the aging patient.

Indications: Symptomatic relief of adult rheumatoid and degenerative joint disease unresponsive to adequate trial of salicylates and other measures of established value, such as appropriate rest. Has been found effective in active stages of: 1) moderate to severe rheumatoid arthritis including acute flares of chronic disease, 2) moderate to severe rheumatoid (ankylosing) spondylitis, and 3) moderate to severe degenerative joint disease of the hip (osteoarthritis of the hip). Has been found effective in relieving pain and reducing fever, swelling, and tenderness in acute gouty arthritis in selected patients. May enable reduction of steroid dosage in patients receiving steroids for the more severe forms of rheumatoid arthritis; in such instances the steroid dosage should be reduced slowly and the patients followed very closely for any possible adverse effects.

Contraindications: Children 14 years of age and under; pregnant women and nursing mothers; active gastrointestinal lesions or history of recurrent gastrointestinal lesions; allergy to aspirin and indomethacin.

Warnings: *Gastrointestinal Effects:* Because of the occurrence and, at times, severity of gastrointestinal reactions, be continuously alert for any sign or symptom signaling a possible gastrointestinal reaction. The risks of continuing therapy with INDOCIN in the face of such symptoms must be weighed against the possible benefits to the individual patient. Gastrointestinal effects may be reduced by giving the drug immediately after meals, with food, or with antacids. Use greater care in aging patients.
Ocular Effects: Corneal deposits and retinal disturbances, including those of the macula, have been observed in some patients on prolonged therapy. Discontinue therapy if such changes are observed. Ophthalmologic examination at periodic intervals is desirable in patients on prolonged therapy.
Central Nervous System Effects: INDOCIN (Indomethacin, MSD) may aggravate psychiatric disturbances, epilepsy, and parkinsonism, and should be used with considerable caution in patients with these conditions. If severe CNS reactions develop, discontinue the drug.

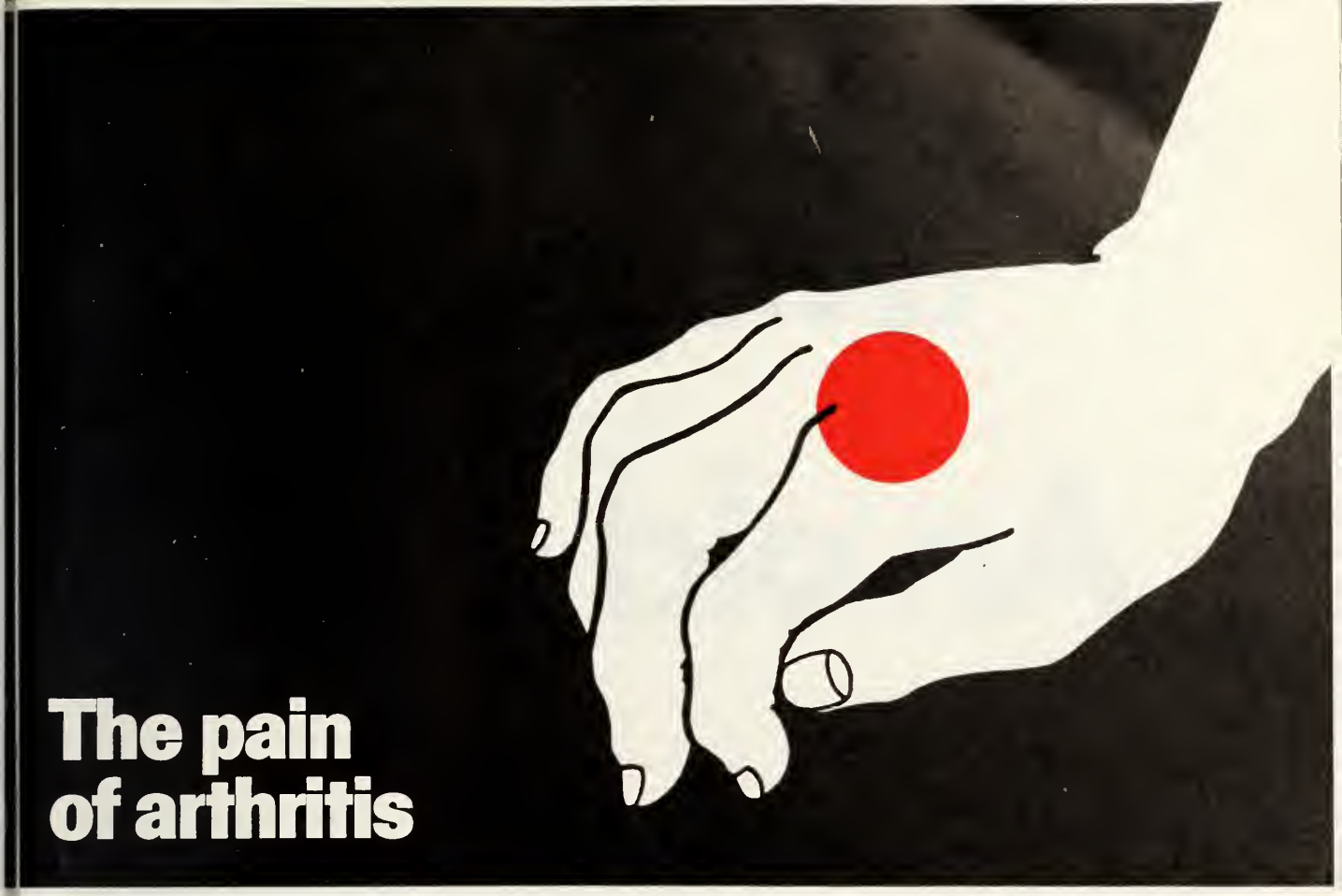
Precautions: Blurred vision may be a significant symptom that warrants a thorough ophthalmologic examination. Patients should be cautioned about engaging in activities requiring mental alertness and motor coordination, as driving a car. Headache which persists despite dosage reduction requires complete cessation of the drug. May mask the usual signs and symptoms of infection; therefore, the physician must be continually on the alert for this and should use the drug with extra care in the presence of existing controlled infection. After the acute phase of the disease is under control, an attempt to reduce the daily dose should be made repeatedly until the patient is off entirely.

Adverse Reactions: *Gastrointestinal Reactions:* Single or multiple ulcerations of the esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage, with fatalities in some instances; gastrointestinal bleeding without obvious ulcer formation; perforation of preexisting sigmoid lesions (diverticulum, carcinoma, etc.); rarely, increased abdominal pain in ulcerative colitis patients or development of ulcerative colitis and regional ileitis; gastritis, which may persist after the cessation of the drug; nausea, vomiting, anorexia, epigastric distress, abdominal pain, and diarrhea.
Eye Reactions: Corneal deposits and retinal disturbances, including those of the macula, have been observed on prolonged therapy; blurring of vision.
Hepatic Reactions: Rarely, toxic hepatitis and jaundice, including some fatal cases.
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PESTICIDE MORBIDITY IN SOUTH CAROLINA

J. E. KEIL, M.S.**
S. H. SANDIFER, M.D.†
R. H. GADSDEN, Ph.D.‡

Pesticide morbidity for South Carolina has not been previously recorded. Pietsch, et al[1] in gathering morbidity information from the State's Poison Control Centers reported that about 600 cases of all type poisonings occurred annually, about 10 per cent of these being pesticide poisoning.

With the use of pesticides increasing,[2] along with public concern about their usage, it is desirable that more accurate pesticide illness information be obtained. Indeed, if pesticide intoxications are rampant, it would be the obligation of the medical community to learn more of diagnostic techniques and tools as well as treatment procedures.

Methods

One thousand one hundred and fifty-seven South Carolina practicing physicians were queried by letter about the number of pesticide poisoning cases they had seen or treated in the previous year. A stamped postal card was enclosed for convenience of reply with the following information requested:

Number of pesticide poisoning cases seen or treated in the last 12 months.

Table 1

Pesticide Poisoning Cases by Counties

County	No. of Cases Reported	County	No. of Cases Reported
Abbeville	1	Greenwood	6
Aiken	2	Hampton	1
Allendale	20	Horry	54
Anderson	9	Jasper	0
Bamberg	5	Kershaw	11
Barnwell	1	Lancaster	2
Beaufort	11	Laurens	4
Berkeley	3	Lee	6
Calhoun	10	Lexington	22
Charleston	12	Marion	19
Cherokee	10	Marlboro	5
Chester	2	McCormick	0
Chesterfield	5	Newberry	0
Clarendon	10	Oconee	23
Colleton	5	Orangeburg	30
Darlington	22	Pickens	2
Dillon	14	Richland	26
Dorchester	4	Saluda	2
Edgefeld	8	Spartanburg	21
Fairfield	12	Sumter	4
Florence	54	Union	1
Georgetown	1	Williamsburg	12
Greenville	72	York	28

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Opinion about pesticide poisonings, whether increasing, decreasing, or staying about the same.

While other information was desired it was thought that additional requests would diminish response.

Results and Discussion

Of 1157 practicing physicians queried, 667 reported they had treated or seen 572 cases of pesticide poisoning in the 12 months ending July, 1969. Most physicians reported that they believed the number of pesticide poisonings was about the same during the past 12 months as in previous years.

Most of the poisonings were concentrated in principal tobacco, cotton and peach growing counties. Greenville led the list of poisonings, reporting 72; Horry and Florence Counties ranked second, each having 54 cases. Table 1 reports the number of cases of poisoning by counties and Figure 1 presents a summary of this data by congressional districts.

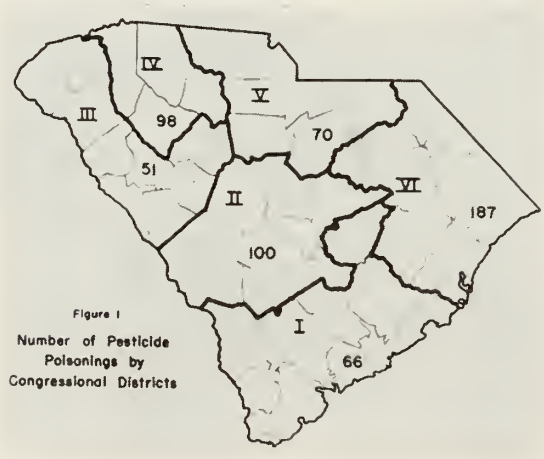


Figure 1
Number of Pesticide Poisonings by Congressional Districts

Figure 1

The morbidity data parallels Pietsch's[1] mortality report in that most poisonings occurred in the Sixth Congressional District. Horry County of this District had the most deaths in Pietsch's survey, which situation compared with that county's second rank in this morbidity study.

Table 2

Pesticide Poisonings Per 100,000 Population by Congressional Districts

District	Rate Per 100,000
I	.16
II	.19
III	.16
IV	.22
V	.26
VI	.47
All South Carolina	.25

Table 2 lists pesticide poisonings per 100,000 population by congressional districts, and shows the Sixth District as having a rate of 0.47, almost twice that of the next highest district of the state as a whole. The state rate of 0.25 indicates the same disease incidence as hepatitis but less than rubella.

The relatively high rate for Congressional District VI may in part be explained by the intensive use of agricultural pesticides in this tobacco and cotton area.

Summary

Of 1157 South Carolina physicians queried, 667 reported they had seen 572 cases of pesticides poisoning during the year ending July, 1969. One third of the cases, with a morbidity rate double that of the state, occurred in the Sixth Congressional District, an area characterized by intensive tobacco and cotton farming.

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THE CONCEPT OF APS:

AIR POLLUTION SYNDROME(S)

ROY H. HART, M.D.*

"The time has come," the Walrus said,
"To talk of many things:
Of shoes, and ships, and sealing-wax,
Of cabbages and kings,
And why the sea is boiling hot
And whether pigs have wings."

Carroll, *Through the Looking-Glass*

Even if miraculously phylogenized with wings, pigs would still be unable to fly high enough or far enough to escape the polluted atmospheric seas that bathe our cities and towns. Our rivers may not be boiling hot, but their stench and filth—of old shoes, rotting ship hulks, putrefying carcasses (of lesser flesh than kings), decaying cabbage, disintegrating sealing-wax, and a myriad other contaminants of the deep and not so deep—reach us all. What is true of the water is true on the land and in the air. In brief the time has come to talk of one particular thing: POLLUTION. In this article: air pollution, specifically the concept of air pollution syndrome(s).

That critical concentrations of pollutants in the air can cause morbidity and mortality is a fact universally acknowledged by environmental health specialists. They—and we—know there is a relationship between bronchitis and air pollution, asthma and air pollution, emphysema and air pollution. We know about the Donora air-pollution disaster of 1948 and the great smog of 1952, in which 4000 Londoners died. We are warned that a new genre of epidemic is in the making.[1] Before another decade passes we may see an epidemic of lung cancer in a city such as Los Angeles, resulting from automobile-emitted pollutants.

These are health problems on the grand scale, producing bodily, or more specifically, tissue effects now generally perceived. But what of the vague aches and pains and discomforts suffered by people in high air-pollution areas? Are these clusters of symptoms, telltale complaints, associated with specific contaminants or combinations of pollutants in the air? I propose that there are, and I refer to the recognizable clinical conditions which develop as the air pollution syndrome(s). Just how many such syndromes there may be, time and patient cataloging will tell. So far I have come to recognize two forms of APS.

Case Reports

In 1968 while working in psychiatry in New York, I saw several cases of what I came to refer to as air pollution syndrome-alpha, or APS alpha. Following is a patient's summary taken from my file of three rather similar cases.

H. R., a 37-year old, married white salesman, college graduate, living in New York City, gave as his chief complaint a "dull, aching, cramp-like pain in my upper back," superficial rather than deep, although penetrating at times. He would also get a burning sensation in his chest, with occasional pleuritic-like pains.

His symptoms bore a relationship to the background pollution. He stated that sometimes he "can taste the ash in the air," and he would always have some symptoms when he had this taste in his mouth. Sharp stabbing pains in the anterior neck often accompanied the back pain. On occasion he would become nauseated and vomit. "When I get sick in my stomach like this, my bowel movements even smell like the stench in the air," he said. Although aware of the relationship between the foulness of the air and symp-

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toms, he was nevertheless unable to articulate the association.

The symptoms, both in nature and intensity, varied as he traveled from city to city on business. He became asymptomatic on trips to the country. His worst experiences were in New York and Detroit, where on days of heavy pollution he would have to take to his bed. On those occasions he would experience severe burning in his chest with an intense, aching pain extending right through to his back. Added to this, but only in New York, not in Detroit, would be borborygmi, which would then go on to diarrhea

He had enjoyed good health all of his life. There was no history of respiratory tract disease. The only GI system disease documented was hepatitis 15 years earlier, with no sequelae. He did not smoke and he drank only at social functions. He had no known allergies. His father had been a heavy cigaret smoker for 45 years and died of lung cancer at the age of 66.

Physical examinations were essentially negative. His temperature, checked twice, on days when he was feeling his worst, was 99.4°F and 99.8°. Chest x-ray film was within normal limits. CBC and uninalysis were also normal. Stools were negative for occult blood, ova, and parasites, and bacterial flora was normal. Barium enema and a GI series were interpreted as normal.

He made the rounds of physicians and had his problem diagnosed as psychogenic backache, psychosomatic disorder, hypochondriasis, and anxiety neurosis. The careless use of the word "crock" by a house officer, which he overheard, drove him, in a depressive state, to a psychiatrist.

Psychotherapy was brief and supportive. I told him he was one of a number of individuals with a sensitivity to environmental pollutants. He accepted the diagnosis of APS. With reassurance that he was not a "crock," plus his acquiring a home air conditioner and electrostatic precipitator, a good deal of his symaptomtology cleared. When last seen he was planning to move out into the suburbs, where he was symptom-free.

The case of I. S., a 41-year old unmarried, male hospital employee, will serve to illustrate air pollution syndrome-beta, or APS beta, which I have encountered in the Charleston area.

A recent arrival to Charleston, he complained, in the summer, "I feel zonged out of my head. There are times I can't even think straight here. What is it? The heat? The humidity? The crap in the air?"

Although he did not complain of headaches, he felt a tight, band-like constriction around his head constantly. Like the previous patient summarized, he experienced chest pain with respiration and also neck pain, but of much less intensity. He did, however, develop abdominal pain, which he described as "a funny kind of ache," coming on late in the afternoon every week day at work. The pain was annoying but tolerated, and did not respond to any of the usual medications. It always cleared when he would leave the Charleston area. The most serious complaint or symptom was: "I just can't seem to concentrate." He also suffered from episodic periods of extreme weakness, forcing him to go to bed. In addition he complained of "a funny taste, a metallic-like taste," in his mouth and at times his teeth and gums ached. This too cleared whenever he went away from the area.

There was nothing unusual in his past medical history or in his family history. His physical examination was essentially normal. However, his pulse was 85 beats per minute, whereas it had always been about 70 until he came to Charleston, when he noted that it was averaging 85-90. His blood pressure was 140/90 mm Hg, and he said it had previously been 120/80. CBC and urinalysis were within normal limits. BUN, FBS, serum electrolytes, and serum proteins were normal. ECG, chest x-ray film, and a GI series were read as normal. Stools were negative for blood, ova and parasites. Dental examination revealed no carious teeth or periodontal disease.

Mental status examination of this intelligent university graduate was on the whole unremarkable. There was a slight but definite deficit in memory (remote, recent, and retention and recall), and also an ever-so-slight impairment of intellectual function. "I just can't think clearly or concentrate well enough to come up with answers," he said.

Whenever he went home to the small town he lived in he felt better. He himself was well aware of the reversibility of his symptom complaints, and he stated that because of this he had not developed anxiety over his "situational health problem." He was considering a move away from Charleston as a realistic solution, one that even Dr. B. W. Carnow of the Chicago Chronic Bronchopulmonary Registry sometimes has to suggest to his patients.[2]

Discussion

APS alpha is characterized by backache, chest pains associated with respiration, neck pain, sometimes gastric discomfort, and occasional borborygmi and diarrhea. In APS beta abdominal discomfort is more noticeable, and chest, neck, and back pains are of lesser degree. Episodic weakness is an interesting finding and apparently a common one. Slight to mild impairment of concentration is present. A bad mouth taste is generally reported. Minor increases in pulse rate and blood

pressure cannot as yet be evaluated. A feeling of fullness in the head and a band-like constriction around the head, along with headaches, are frequent complaints in the Charleston area, and cannot be considered as part of the APS problem. Probably other subtypes of APS will be uncovered; for symptom complaints will vary from place to place, consistent with the kinds and concentrations of pollutants in the air in a particular locale.

When it comes to considering the effects of all the foreign material in the environment on human tissue, we somehow fail to see the simpler everyday effects, as illustrated by the two case summaries, but tend instead to look only for the classic disease processes, such as emphysema, asthma, bronchitis, etc. By ignoring a wider interpretation of the protean complaints presented by patients in air-polluted regions, we have perhaps lost sight of the forest for the trees and have failed to grasp the full concept of the natural history of air pollution.

Bogdonoff[3] and Craig[4] have made a start by writing on "undiagnosed distress," that is, patients presenting themselves with some sort of disturbing symptom complex that cannot be fitted into any of our convenient diagnostic pigeonholes. These patients are usualy dismissed as "crocks" or hypochondriacs. However, Bogdonoff points out that "the patient's detecting devices and mechanisms are more sensitive than those of the medical profession." Craig emphasizes that one can expect a range of responses to a given stimulus in a population and that "at each end of the normal distribution scale, there is an area which might include some of those patients who are considered 'crocky.' " By extension of this concept of individual susceptibility to specific environmental stimuli, the idea of air pollution syndromes should not seem so strange at all.

Conclusions

I have introduced the concept of air pollution syndromes and have illustrated two types of this symptom complex. There may be other forms—and then again some will have already concluded that there is no such thing as APS.

This presentation has done nothing more than to elaborate an hypothesis. Economy in the use of words and case illustrations may have served to weaken the basic concept. Critical comments to the unpublished manuscript have already been offered. "Patient H. R. has a strong underlying psychological conflict," said colleague A. "Patient I. S. suffers from hyperventilation," said colleague B. Although I have not discussed the predisposing psychological conflicts, I am well aware that they are there, having obtained a certain amount of psychodynamic data about both patients. Perhaps we will find our greatest number of cases of APS from among patients with psychological predeterminants, and eventually justify adding APS to the list of psychophysiologic disorders. It would in no way invalidate the concept of APS.

As physicians listen with a more searching attitude to their patients' complaints heretofore considered mundane, seeing patterns instead of isolated symptoms, perhaps we will be able to gather the necessary data to corroborate the reality of APS. It was Sir James Mackenzie, the father of cardiology, who wanted to involve general practitioners in medical research on a broad scale.[5] APS will be established or refuted by family physicians everywhere who listen to their patients' histories, digest the data they obtain, and draw their own workable conclusions.

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GONOCOCCAL ARTHRITIS

ALLEN H. JOHNSON, M.D.*

Prior to the advent of antibiotics, approximately 4 per cent of patients with gonorrhea developed gonococcal arthritis, and the majority with arthritis developed chronic synovitis, which often led to residual deformity. We now see dramatic effects with penicillin in patients with gonococcal arthritis and most recover completely. Since the advent of this drug, many have considered gonococcal arthritis of historical interest only, but recent reports emphasize the continued importance of this entity.[1,2,8] These observations from different institutions confirm the presence of this disease throughout the United States. The clinical features of gonococcal arthritis have not changed appreciably over the years, with the exception that women now constitute over 80 per cent of the patients.[4] This problem relates primarily to the difficulty in identifying and treating women with unsuspected or asymptomatic gonorrhea. A recent study[5] utilizing routine cultures revealed that 8.2 per cent of females admitted to an obstetric and gynecologic clinic had documented gonorrhea. The majority of cases of gonococcal arthritis occur in adults, but this diagnosis should also be considered in children.[6]

Keiser et al[3] attempted to separate gonococcal arthritis into septic and nonseptic forms. The septic form exhibits characteristic skin lesions of gonococcemia, and this manifestation may serve as an early clue to the diagnosis. These patients have chills, fever, polyarthritis, and skin lesions with relatively little joint effusion. The nonseptic patients were usually seen late and did not have chills and fever, but had monarticular disease with positive synovial fluid cultures. These are only two clinical forms of gonococcal arthritis, but they serve to emphasize the variability of this disease.

In the typical case of gonococcal arthritis in males the urethritis precedes the onset of articular symptoms by 7 days to 2 weeks, but since most cases are now seen in women, knowledge of the incubation period is not too helpful. In women arthritis may occur without relation to recent sexual exposure or urethritis. This is probably due to latent infection and episodes may be triggered by pregnancy or menstruation.[7] A history of fever, anorexia, chils, and migratory tenosynovititis prior to the appearance of joint swelling or effusion strongly suggests the diagnosis of gonococcal arthritis. The septic skin lesions consist of greyish to erythematous papules which undergo necrosis or form vesicles.[8,9] These lesions can be seen on any part of the body but are frequently noted on the palms and soles or near the joints involved. Many of the patients with monarticular gonococcal arthritis often are afebrile when they are seen. These cases fall into Keiser's classification of nonseptic.

Arthrocentesis is a mandatory procedure in any undiagnosed effusion. The synovial fluid examination should consist of a white-cell count in saline (WBC diluent clumps cells), a differential, methylene blue and Gram stain, sugar determination

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with a concomitant blood sugar and immediate culture for aerobic and anerobic organisms. An attempt should be made to identify the gonococcus in the blood and other tissue sites. Smears and cultures of the cervix and urethral or prostatic discharge are indicated. A Gram stain of the serum from skin lesions reveals the Gram negative diplococcocci in about 50 per cent of the cases. A special fluorescent antibody test[2] may offer help in the diagnosis of case where culture material is negative.

In the past gonococcal arthritis has been diagnosed in many cases that were probably other types of postvenereal arthritis. Reiter's syndrome is an excellent example and many of the past reports included keratodermia blennorrhagica in the diagnosis of gonococcal arthritis, when this usually is considered diagnostic of Reiter's syndrome. Reiter's syndrome and gonorrhea have been seen in the same patient and this may well account for the occasional case of so-called gonococcal arthritis that fails to respond to penicillin therapy. In the recent reported cases of gonococcal arthritis very strict criteria are used and the diagnosis limited to patients with positive synovial fluid cultures. Neisseria gonorrhoeae is a very fastidious organism and is difficult to culture so it would seem unwise to limit the clinical diagnosis of gonococcal arthritis to patients who have positive cultures.

Patients with proved gonococcal septicemia, gonococcal urethritis, or pelvic inflammatory disease should be treated with the appropriate antibiotics. Patients are frequently seen who present the clinical picture of gonococcal arthritis with negative cultures or they present themselves with a picture suggestive of Reiter's syndrome, but with positive genital cultures for Neisseria gonorrhoeae. Following observation and adequate diagnostic studies, these patients should be given a therapeutic trial of penicillin if there is no prior history of hypersensitivity to the drug. Four to six milion units of penicillin G daily in divided doses, parenterally, should give a dramatic response within 48 to 72 hours and the majority of patients should be virtually asymptomatic in one week to 10 days. Sterile joint effusions may persist for as long as 3 weeks in some cases.

The therapy should continue for ten days to 2 weeks with the substitution of phenoxymethyl penicillin, 2 grams by mouth per day after a satisfactory response has occurred. Cephalothin would be an excellent alternative in the patient sensitive to penicillin when continued parenteral therapy is indicated. Tetracycline, 2 grams by mouth per day is also a suitable alternative for penicillin. Penicillin G remains the drug of choice in patients who are not sensitive, but this may change with the emergence of strains of gonococci relatively resistant to penicillin. It appears that ampicillin may be the drug of choice when a relatively resistant strain is encountered. There is ample evidence that systemic antibiotics are adequate and that intra-articular injection of antibiotics is not necessary to control joint infection in septic arthritis.[10,11]

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SOUTH CAROLINA HEART ASSOCIATION CARDIOVASCULAR CASE OF THE MONTH

A NEW APPROACH TO THE TREATMENT OF SEVERE ANGINA PECTORIS

PETER HAIRSTON, M.D.*

Angina pectoris occurs when there is a disparity between the oxygen supply and the metabolic demand of the myocardium. This is generally a manifestation of atheromatous occlusive disease of the coronary arteries sufficient to produce a relative myocardial ischemia. The classic substernal pain radiating either to the neck or down the left arm signals the myocardium's anguished plea for more oxygen. In many cases the oxygen deficit is so great that frank myocardial tissue death occurs and the patient suffers an infarction.

Many patients with angina can be adequately treated with the various medications that function to produce coronary vasodilatation or reduce cardiac work. In many cases these do not suffice due to the severity of the atheromatous process.

The oxygen needs of the heart are determined by the heart rate, intraventricular pressure, and myocardial contractility factors which are influenced by the sympathetic efferent traffic from the medullary vasomotor center. Stimulation of the carotid sinus nerves, which can be electrically induced, reflexly inhibits this sympathetic discharge. The present communication documents the application of this approach to the treatment of a patient with severely incapacitating angina refractory to medical treatment.

Case Report: O. S. (VAH 251-22-4431), a 45-year-old highway engineer, enjoyed good health until 1960 when he suffered a severe myocardial infarction. He subsequently developed progressively severe angina pectoris for which he required repeated hospitalization. The episodes of pain occurred invariably with mild exertion, and occasionally during sleep. Relief was generally obtained with sublingual nitroglycerin, but on many occasions required narcotics. Activity restriction, anticoagulation, tranquilizers, nitrates, and most recently, propranolol, were employed with diminishing success.

Physical examination revealed a well developed, well nourished, anxious male. Blood pressure was 140/90 mm Hg with good arterial pulses palpable in all extremities. The heart had a regular sinus rhythm without murmurs.

Pertinent laboratory data included moderate albuminuria, and glycosuria with a blood cholesterol of 450 mg/100 ml. Electrocardiogram revealed left ventricular hypertrophy, non-specific ST and T wave changes and occasional premature ventricular contractions. At cardiac catheterization the left ventricular end diastolic pressure was elevated to 14 mm Hg. Cine-angiography revealed a poorly contracting left ventricle, and severe coronary artery disease resulting in total obstruction of the right and circumflex branch of the left coronary

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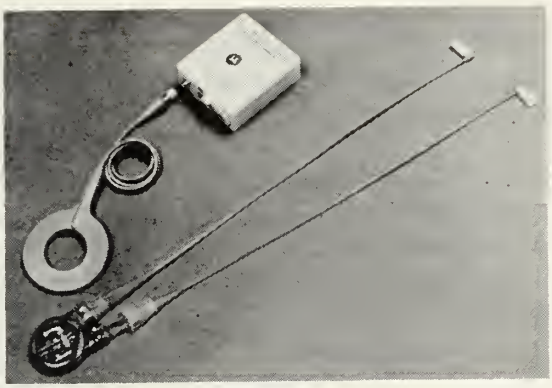


Figure 1

arteries. Good collateralization from the anterior descending and diagonal branches of the left coronary vessels was noted.

On the thirteenth hospital day a radio-frequency-carotid sinus nerve stimulating device (Figure 1), was implanted under general anesthesia. The surgical procedure employed has been described by Schwartz and Braunwald.[1,2] The positions of the subcutaneously implanted receiving unit and electrodes as well as the transmitting coil are depicted in Figure II.

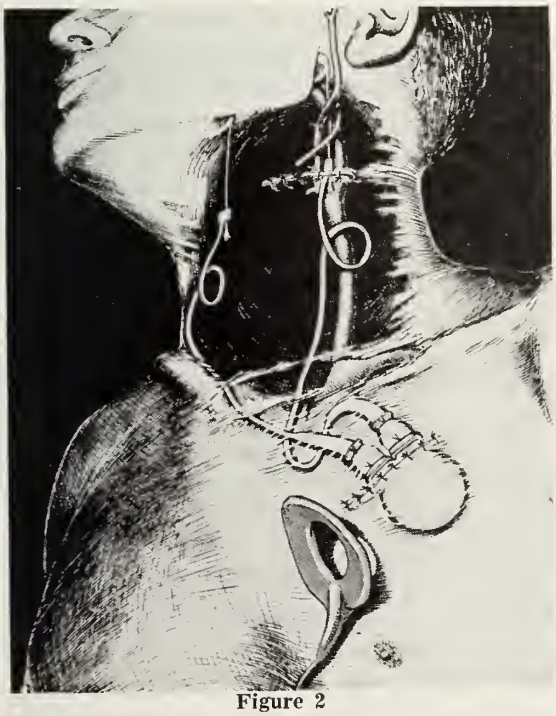


Figure 2

The initial postoperative course was characterized by a transient episode of systolic hypertension which responded to reserpine. CSN stimulation was not employed therapeutically until the third postoperative week. Initially the patient complained of moderate left submandibular pain that was presumably due to stimulation of nerve fibers coursing near the stimulating electrodes. This disappeared by the fourth postoperative week at which time activation of the stimulator caused no discomfort. Another cardiac catheterization was performed in the fourth postoperative week in an effort to document the hemodynamic response at various levels of stimulation. Table I illustrates the changes which occurred at rest and during stimulation. A significant hemodynamic response consisting of a drop in systemic arterial pressure with an increase in cardiac output and a decrease in peripheral vascular resistance is noted.

Table 1
Hemodynamic Effects of Carotid Sinus Nerve Stimulation:
Report of Cardiac Catheterization

	Rest	CSN Stimulation
Heart rate	112	98
Arterial pressure	140/90	128/73
Cardiac output (L/Min)	4.4	5.5
Cardiac index (L/Min/M²)	2.4	3.0
Stroke volume (cc/beat)	39	56
Stroke index (cc/beat/M²)	21	30
Resistance		
Pulmonary	209	117
Systemic	1570	1055

The patient was extremely pleased with the CSN stimulator, preferring electrical stimulation to nitroglycerin for aborting or preventing anginal attacks. Maintenance iso-sorbide dinitrate, nitroglycerin, and propranolol were continued but in lower dosage. The patient is presently, nine months after surgery, employed full-time, and engaging in normal social and domestic activities. He is extremely pleased with the results of his surgery.

Carotid Sinus Nerve Stimulator Description (Figure 1)

The CSN stimulator is powered by a 9 volt mercury battery and pulse generator which are housed in a rugged light-weight container small enough to be carried comfortably in a shirt pocket. An on-off switch is provided on the transmitter case so as to allow the patient to initiate and terminate stimulus as needed. The unit generates radio-frequency pulses of 0.3 m sec., 1.5 to 9 volt amplitude, and 20-80 pulse per second rate variable. The stimulus power is supplied via the attached antenna coil by radio-frequency inductive coupling through the skin to the implanted receiver.

The receiving unit is completely implantable and consists of a wafer-like receiver, two flexible stainless steel helical coil electrodes, and cradle shaped platinum electrode terminals which make direct physical contact with the carotid sinus nerve bundles. The unit is embedded in epoxy resin and coated with silicone rubber which makes it well suited for chronic subcutaneous implantation.

Discussion

Hering, in 1923, demonstrated nerve endings in the carotid sinus and bifurcation of the carotid artery, and proved that excitation of the carotid sinus in the dog produced reflex bradycardia and systemic hypotension. Schwartz[1] and others made practical application of this phenomenon in the successful treatment of patients with intractable hypertension by electrical stimulation of the carotid sinus nerves.

The observation that carotid sinus massage was effective in relief of anginal pain has recently led investigators to a similar application of electrical CSN stimulation in patients with angina pectoris. The mechanism by which the salutary effect is achieved is a reflex reduction in the major physiologic determinants of myocardial oxygen consumption; namely, myocardial wall tension or intraventricular pressure, heart rate, and the contractible state of the myocardium. The reflex is mediated through the inhibitory effect of CSN stimulation on sympathetic discharge from the cardiovascular center in the medulla. The general effect is a decrease in arterial vasomotor tone, a lowering of blood pressure, a slowing of the heart rate, and reduced myocardial contractility. The resultant reduction in myocardial oxygen consumption assists in restoring the balance between oxygen supply and demand of the myocardium.

The single case reported is obviously inadequate to demonstrate conclusively the efficacy of this form of treatment; however, Epstein and Braunwald[3] have achieved similarly good results in a much larger series of patients whose angina had proven intractable to medical therapy. In our patient, CSN stimulation produced not only a subjective relief of angina, but an objective beneficial cardiodynamic response as evidenced by cardiac catherization. Similar observations were made in the Braunwald series when the patients were subjected to graded exercise capacity determinations.

The many advantages of this type of therapy over the standard medical treatment are readily apparent. The effect of carotid sinus stimulation is extremely rapid in onset with relief of angina within seconds; it is generally more reliable than medical therapy, and it is not accompanied by the undesirable side effects associated with most medications. These factors naturally lead the patient to a greater confidence in this therapeutic modality which in turn potentiates the desirable effect obtained by CSN stimulation. It is anticipated that this confidence will lead the patient to a more rapid increase in physical activities which will serve to induce formation of collateral vessels in the myocardium and favorably alter the natural history of the patient's illness.

The disadvantages associated with CSN stimulation are related primarily to the use of general anesthesia and the necessary manipulation of carotid sinus nerves in the patient with coronary artery disease. These factors were considered to be primary determinants in the deaths that occurred in Braunwald's series. The effect of CSN stimulation on coronary artery blood flow is as yet unknown. This and similar considerations necessitate the warning that CSN stimulation must be terminated when it does not rapidly and effectively relieve an anginal attack, and is presently not indicated in the treatment of pain associated with suspected acute myocardial infarction.

Selection of patients for implantation of CSN stimulation must be conducted with considerable care. Many patients with angina experience adequate relief by medical management alone. CSN stimulation is reserved for that sizable number of patients who suffer incapacitating angina pectoris despite optimal medical management.

Summary

Electrical stimulation of the carotid sinus nerves effectively reduces myocardial oxygen consumption and favorably restores the imbalance between oxygen supply and demand produced by ischemic heart disease. CSN stimulation has been applied in a patient with intractable angina pectoris with resultant return of this individual from a life of incapacitation to gainful employment. It is recommended that consideration be given to this form of therapy for the patient with angina pectoris whose symptoms prove refractory to standard medical management.

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SOIL LEAD AND PEDIATRIC LEAD POISONING IN CHARLESTON, S. C.

F. STRAIT FAIREY
*JOHN W. GRAY, III

Chronic pediatric lead poisoning can be caused by ingestion of sufficient quantities of lead. To prevent lead poisoning the source of the lead must be discovered. The following research was performed to test the hypothesis that sufficient quantities of lead are present in the soil in some areas of the peninsular city of Charleston, S. C. to cause chronic pediatric lead poisoning.**

Method

One hundred seventy random soil samples were collected throughout the peninsular city. For comparison, 37 samples were collected from the lots of houses where pediatric lead poisonings had occurred. Most of the samples were collected in the yards, but other samples were taken next to houses and near roads to test for paint and automobile contamination.

A 2 inch hand auger was used to obtain samples to a uniform depth of approximately 5 inches. Samples were also taken at depths of one and two feet at selected sites. All samples were placed in numbered plastic bags and the collection sites recorded on a Charleston County Planning Board map.

After mixing and several days of drying, 10 gm of each sample were mixed with 10 ml of aqua regia (3 parts H_2O, 3 parts HNO_3, 1 part HCl). The resulting mixtures were boiled for 30 minutes and then diluted to 100 ml with demineralized H_2O.

*Student research performed by the authors at the Medical University of South Carolina, supported by the U. S. Public Health Service, Community Health Apprenticeships for Medical and Dental Students, Grant no. AT-164-01-68.

**There are 84 diagnosed cases of pediatric lead poisoning at the Medical University Hospital and Clinics from 1959-1966.

The amount of lead dissolved in the demineralized H_2O was tested with an Atomic Absorption Spectrophotometer, Model No. 393, set for standard conditions. Standard solutions containing 1, 10, 20, and 50 ppm were used to calibrate the spectrophotometer and to check accuracy during each sample run.

By diluting 10 gm of dirt to 100 ml with methyl isobutylketone (MIKB), the atomic absorption spectrophotometer was used to measure organic lead content after being calibrated with an MIKB solution containing 20 ppm lead.

Results

Soil lead values varied widely, ranging from 1 to 12,000 ppm Pb. Over 75 per cent of the samples taken from random sites contained less than 500 ppm lead. However, Pb values of over 1,000 ppm were found at 30 random sites and in the yards of most houses where pediatric lead poisoning had occurred.

Table 1

Summary of All Samples Taken In the Yards of Charleston Houses

Lead Content ppm	Yard	Next to House	Near Road	Under House	Garbage Area	Total
RANDOM HOUSES						
0-25	17	0	8	0	1	26
25-100	28	2	9	0	0	39
100-500	41	3	12	5	2	63
500-1000	4	0	5	1	2	12
above 1,000	15	8	6	0	1	30
LEAD POISONING HOUSES						
0-25	0	0	0	0	0	0
25-100	1	0	0	0	0	1
100-500	1	0	0	1	0	2
above 10000	11	10	1	3	2	27
ALL HOUSES						
0-25	17	0	8	0	1	26
25-100	29	2	9	0	0	40
100-500	42	3	12	6	2	65
500-1000	9	1	6	1	2	19
above 1000	26	18	7	3	3	57

Yards	Random Houses	Pb-poison Houses	
<500 ppm	86	2	$x^2=24.5$
>500 ppm	19	16	$p<.005$

Study of the distribution of sample sites and values on a map of Charleston revealed that lead values were fairly uniform within local areas, but varied markedly from area to area within the city. Values tended to be relatively low in areas of filled land. Also, sites of pediatric Pb poisonings tended to be located in areas of high lead concentration.

Over 60 per cent of random samples taken next to houses to test for lead paint contamination showed Pb levels above 1,000 ppm, but soil samples taken near roads did not show increased amounts of lead when compared with samples taken in yards. (Table No. 1). Additionally, the MIKB tests for organic lead content, presumably derived from auto exhausts, showed less than 10 ppm Pb.

Samples taken at different depths show decreasing lead with increasing depth. (Table No. 2).

Table 2

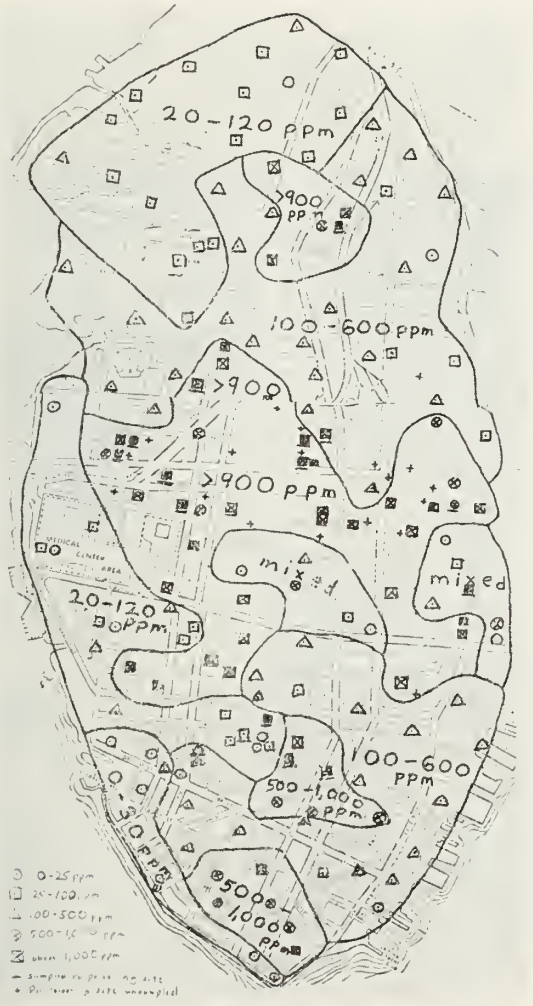
0 Ft. Sample No.	0 Ft.	1 Ft.	2 Ft.
154	185	27	31
205	4,020	200	19
225	62	20	
235	281	52	
258	5,340	327	
262	8,280	451	
304	176	178	74
309	1,680	1,640	145
319	2,950	1,400	
average	2,553	477	67

Lead content of soil from depth samples.

Discussion

Soil lead levels in areas of Charleston, S. C. are much higher than those found in comparable areas of the United States.[1] A striking correlation exists between high lead levels and original Charleston land. (See maps No. 1 and No. 2). Possibly the lead is native to the peninsular soil, but a marked decrease in lead with sample depth indicates an external origin. Also, high levels in older areas of town point to man as the cause of contamination.

Two likely sources of lead are paint and ashes. Paint is probably the source of high Pb close to houses and could also contaminate surrounding areas. Coal and wood ashes dumped in the yard might be a source of contamination at both painted

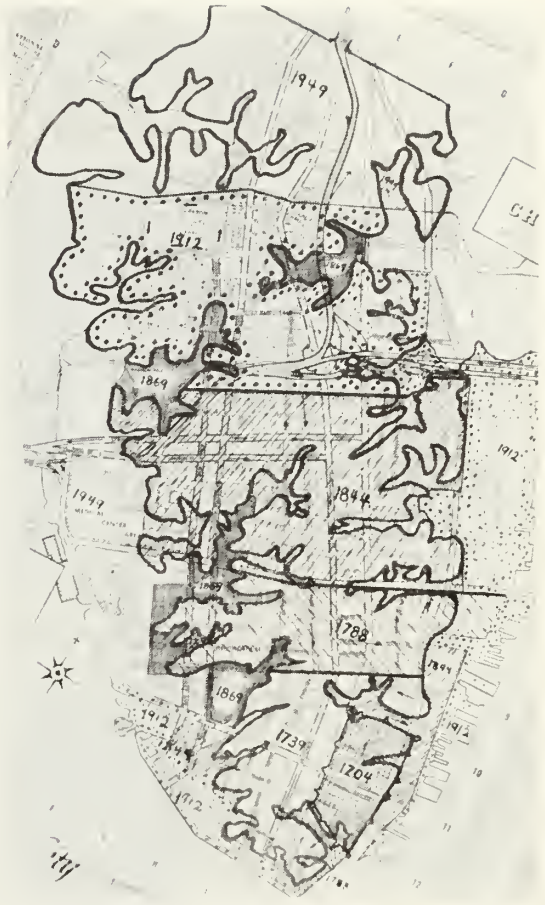


Map No. 1

Pb Sample site Values and Pb level lines drawn from these values. Also Pb-poisoning site sample values (underlined) and unsampled Pb poisoning sites (+).

and unpainted houses. However, there is no correlation between major Charleston fires and high soft lead content.

Neither pesticides nor automobile exhausts account for the high Pb levels in Charleston, though undoubtedly they add to the contamination. Soil Pb values in Hampton Park are relatively low despite continued use of lead arsenate. Automobile exhaust is known to cause large elevations in soil Pb content in some areas of the U. S.[2] but no correlation between major thoroughfare and high lead content has been demonstrated in Charleston.



Map No. 2

A Summary of Charleston development and land fill.

Regardless of the source, the level of Pb in the soil of Charleston is sufficient to cause chronic pediatric lead poisoning. Only 2 mg of Pb ingested per day causes chronic lead poisoning in adults.[3] Since the average daily diet contains 0.3 mg Pb[4] daily ingestion of only 1.7 gm of dirt containing 1,000 ppm Pb is necessary to cause chronic lead poisoning and Charleston soil contains up to 10 times that amount.

An extensive survey in Baltimore, Maryland indicates that up to 40 per cent of children under 6 have exhibited pica.[5] A survey taken in Charleston in 1968 shows that most children with lead poi-

Table 3

No.	Yard	Next to House	Near Road	Under House	Garbage Cans
		RANDOM HOUSES			
15	3,221	1,860	5,825		5,825
19	337		183	210	183
22	284	55			433
28	184	2,258			542
31		427			610
46	186	335			
51	1,239	2,761			
316	2,250	3,050			
		LEAD POISONING HOUSES			
58	1,780	12,000	1,522		1,522
110		961			2,450
112	3,970			1,640	
129	1,891	2,420			
131	261	2,580			
133	2,750	7,770			
136	754	2,236			
150	758	1,500		2,235	
260	1,460	6,470			
307	1,330	5,120			5,120

Comparison of lead levels at different parts of the yard of some random and Pb-poison houses.

soning are poorly supervised.[6] A tendency toward pica in children and a lack of supervision to prevent it point toward soil as a possible source of lead. The majority of houses where lead poisonings have occurred contain very high levels of lead in their soil and are located in areas with generally high levels (Table No. 1 and Map No. 1). These facts further support the theory that children in Charleston can get lead poisoning by eating dirt.

Summary

The soil of the peninsular city of Charleston, S. C. was very high Pb levels. Although the source of the soil lead has not been determined, city-wide fires, pesticides, automobile exhausts and native lead have been eliminated as reasonable sources for the high soil Pb content.

Pica is common among children under 6, and soil Pb levels are sufficient to cause chronic pediatric lead poisoning. Furthermore, the yards of houses where pediatric lead poisoning has occurred contain large amounts of lead, and most cases of pediatric Pb poisoning occur in an area of high soil Pb values.

Acknowledgment

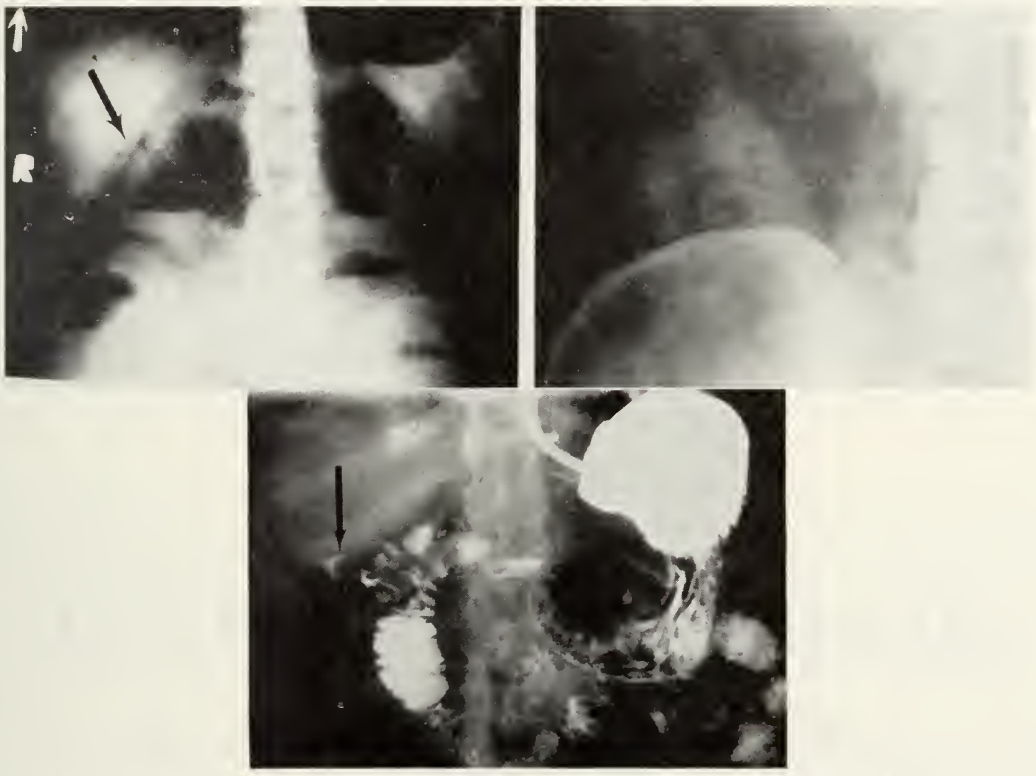
The authors wish to thank Dr. John F. Finklea, Dr. Lamar E. Priester, Jr. and Dr. Samuel H. Sandifer for their guidance and encouragement during this study.

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X-RAY FILMS OF THE MONTH

WILLIAM M. RAMBO, M.D.
Medical University Hospital
S. E. PUCKETTE, JR., M.D.
Charleston County Hospital



The above films were taken on a 61 year old white female who for four days prior to admission had had cramping epigastric pain which had gradually increased in severity. She had vomited profusely and had had no bowel movements. In the past few years she had experienced several episodes of right upper quadrant pain, the most recent, six weeks previous at which time cholelithiasis had been diagnosed by x-ray examination. She was found to have peri-umbilical tenderness; general rebound tenderness and vague firmness was noted in the right upper quadrant. Bowel sounds were few, but when heard coincided with the cramping pain.

* * *

The upright film of the abdomen demonstrates multiple loops of small bowel distended with gas and fluid; there is a gallstone in the right upper quadrant. The second film demonstrates another circular density, similar in appearance to gallstone in the right upper quadrant. The diagnosis is gallstone ileus.

Gallstone ileus, an uncommon complication of cholelithiasis, accounts for about 1 per cent of all cases of small bowel obstruction. The findings in this case are very typical. It is seen mostly in females above sixty. The gallstone passes through a biliary enteric fistula which usually communicates with the duodenum. From thence, it passes downwards till it impacts, usually in the more distal portion of the ileum. Obstruction may be intermittent as the gallstone alternately impacts and then moves on down the intestinal tract. This may account for the fact

that these patients initially do not appear as sick as those with other forms of mechanical obstruction. A classic radiographic sign, air outlining the biliary tract, was not present in this case.

Surgical treatment is directed towards relieving the intestinal obstruction. Surgical procedures for relief of the biliary enteric fistula and gallbladder disease are deferred until such time as the patient has made a satisfactory recovery. Many surgeons prefer to defer the biliary tract surgery indefinitely if the patient is asymptomatic. However, it must be kept in mind that recurrent episodes due to additional calculi passing through the fistula may occur, especially in the early postoperative period.

In this patient, in addition to the impacted stone, a necrotic segment of small bowel was found with perforation and a surrounding abscess. This area was resected and the more distal stone removed. The patient recovered uneventfully.

ERRATUM

In the article "Two New Topical Nitrofurans, Furazolium and Furazolidone. A Therapeutic Trial Among Patients with Skin Sores" which appeared in the September, 1969 issue, page 311, in the second paragraph, line 4, the text should have read *furazolidone aerosol powder.*

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Assistant Professor of Psychiatry and Medical Director

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President's Page

Dr. William Perry invited me to write *The President's Page* for this edition of the South Carolina Medical Association Journal. I would like to report on the state facilities for training paramedical personnel.

Recruitment in the field of nursing and paramedical careers has been one of the outstanding programs of the Medical Auxiliary to the South Carolina Medical Association. They are to be congratulated for their good work.

Associations and Commissions dealing in health services in South Carolina met in Columbia in the fall of 1969. The purposeof the meeting was to consider the feasibility of setting up a working organization for the recruitment of students for health careers. Mrs. Davis D. Moise represented the South Carolina Medical Auxiliary and I attended for Dr. Perry. As a result of this meeting, noteworthy progress was made.

Mr. Richard Edwards, News Director, WIS Television, has just completed a film on health careers and facilities for training, I taped a short insert for the film with Mr. Edwards. The importance of the professional paramedical career individual to the practice of medicine was stressed.

Data has been compiled on the South Carolina schools offering medical career training in their curriculum—(nursing omitted from this report).

The schools are listed as Richland Technical Education Center, South Carolina Baptist Hosptal School of Medical Technology, Medical University of South Carolina School of Health Sciences, Health Careers Center at Greenville Technical Education Center, Spartanburg Technical Education Center.

The varied courses are listed showing the present enrollment. Laboratory Technology—30, Medical Laboratory Assistant—47, Surgical Technology—13, Radiologic Technology—43, Radiologic Technician—46, Physical Therapy Assistant—22, Dental Assistant—46, Dental Hygiene—89, Histologic Technician—5, Inhalation Therapy—28, Medical Technology—12, Psychotechnology—7, Nurses Aid—20, Licensed Practical Nurse—38, Nurse Anesthetist—15, Ward Clerk—40, Medical Record and Medical Secretary—24, Mental Health Technology—47, and, Medical Record Administration—2. Total number of students enrolled is 574.

The total number of physicians registered in South Carolina is 2,077, and listed by specialty as follows: Administrative Medicine—23, Anesthesiology—48, Cardiovascular Disease—10, Colon and Rectal Surgery—4, Dermatology—16, General Practice—694, General Surgery and Thoracic Surgery—190, Gynecology—5, Internal Medicine—167, Neurology—14, Neurological Surgery—13, Obstetrics—105, Occupational Medicine—19, Ophthalmology and Otolaryngology—21, Ophthalmology—49, Orthopedic Surgery—51,Otolaryngology—21, Pathology—39, Pediatrics—107, Physical Medicine and Rehabilitation—3, Plastic Surgery—5, Psychiatry—67, Public Health—44, Radiology—62, Thoracic Surgery and Cardiovascular Surgery—20, Urology—40, Intern—34, Resident—117, Retired—38, U. S. Army—13, U. S. Navy—30, Air Force—4, and U. S. Public Health Service—4.

The average number of doctors graduated yearly from the Medical University of South Carolina is 73.

The number of doctors per 100,000 population in South Carolina is 77, and the number of doctors per 100,000 population in the United States is 135.

The citizens of our state and the medical doctors are in debt to the educators of our state who are preparing professional personnel in the field of health careers.

Ben N. Miller, M.D

Editorials

Chiropractic Ambitions

In a natural desire to achieve status and recognition, the chiropractors make every effort to better their position. Pressure is being put on Medicare to include chiropractors in its coverage for payment for medical services. There is a surprising amount of sympathy for this move among members of Congress, this despite the recent study conducted by HEW which condemns chiropractic wholeheartedly and the statement of the American Public Health Association that the practice is a hazard to health.

In South Carolina a bid for recognition is to be seen in the proposed legislation H. 1449, a bill to revise and amend the section of the code providing for the organization of the State Technical Advisory Radiation Control Council which places a chiropractor in the governing Commission. Obviously nothing in the cultists training or experience would make him in any way competent to pass on matters which concern the Radiation Control Council. The Governor's affection for such representation remains mysteriously obscure. All that it would accomplish would be confusion and perhaps danger to the Commission and undeserved prestige for an unqualified member.

The Medical Examiner

The prospect of the establishment of the position of a State Medical Examiner to furnish medical opinion in cases now under the jurisdiction of the coroners seems to have met with vociferous opposition by the incumbent "officers of the crown." The old title is as out of date as the current methods of handling coroner's cases. The possibility of losing prerogative and perhaps position seems to alarm the present office holders considerably—a natural reaction, but not one conducive to progress.

As a matter of fact, the establishment of medical examiners would not aim at abolishing the constitutional office of coroner, and should indeed result in making available to the coroner much valuable assistance in his office. A better understanding between the persons concerned might result in an amicable agreement, not now in view.

Much strength could be given to the position of the advocates of establishing medical examiners if our state law enforcement agency (SLED) could support the idea that professional medical advice and service should be of great value to both it and the coroner.

On Fraudulent Claims

The great recent hullabaloo in the press about the bad behavior of physicians in making fradulent claims against the HEW programs has dwindled down to the fact that since Medicare began 3½ years ago, two physicians have been convicted of fraud in their dealings with the agency. These two indictments were the total positive result of investigating of 2,500 cases of suspected malfeasance. A Medicare official says "it is clear from our investigations that the number of attempts at fraud or abuse is relatively very small."

The harm to the already battered image of the physician has already been done. What appears to be a retraction of earlier charges receives no notice in the press, and the suspicion that doctors are confirmed chiselers remains implanted in the mind of the public. Such is the effect of a huge federal agency going off half-cocked.

The Tardy Reporter

Regulations of the State Board of Health properly require that certificates of death be filed promptly within three days of the unhappy occasion. This de-

sired and reasonable speed is sometimes slowed by the need to await the outcome of an autopsy. This poses an understandable delay which can be compromised by the use of a temporary report.

The basic regulations are not based on any desire for unusual bureaucratic routine, but on the need for public health officials to follow events relating to disease and death, and on the desire to make some practical application of this knowledge.

Doctors are not notoriously efficient as reporters of data relating to public health. Not infrequently the South Carolina doctor lets his report linger on his desk for six months or more. He could do better to smooth the road of his own State Board of Health.

WILLARD B. MILLS, M.D.

At a meeting of the South Carolina Chapter of the American Academy of Pediatrics on February 14, 1970 in Charleston the following resolution was passed.

WHEREAS: It has been the misfortune of this Academy to suffer the loss of Dr. Willard B. Mills on November 1, 1969, we wish to recognize this loss and the enormous contribution he has made to medicine, to his community, to his State and especially to the Academy.

Let is be recalled that he served as Chairman of this organization from October 1968 until his death and was most diligent in his duties and responsibilities. Further, let it be recognized that Willie Mills served on the Regional Board of Appalachia, that he served his County Medical Society in many capacities, that he was a leader in medical education at Greenville General Hospital, and that he maintained his clinical interest in pediatrics although limited by physical infirmity.

Even with these many contributions to his fellowman we wish also to recognize his cheerfulness, his humor, his interest in people, and his great concern for the welfare of all.

BE IT RESOLVED: That the S. C. Chapter of Pediatrics acknowledge our debt to him and pass on to his family our sincere sympathy and great sense of loss.

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings commencing July 1, 1970, in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358; second year $12,496; and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, Drawer 119, Columbia, South Carolina 29202.

EQUAL OPPORTUNITY EMPLOYER



Dr. William Steve Lang Jr. of Greenville is among 25 specialists from the United States who have been invited by Leiden University, Holland, and Odense University, Denmark, to be members of the teaching faculty for a postgraduate course to be held August 30-Sept. 9. **Dr. William Campbell McLain Jr.** has been named associate coordinator for continuing education of the S. C. Regional Medical Program. **Dr. Paul R. Staley** and **Dr. Richard E. Ulmer** have announced the removal of their office to Parkwood Professional Building, Charleston, for the practice of internal medicine. **Dr. Henry G. Howe Jr.** of Greenville has been named medical director of Liberty Life Insurance Co. He has practiced internal medicine and cardiology in Greenville since 1963. **Dr. J. E. Brunson,** retired Taylors physician, recently was presented the Distinguished Service Award by the Wade Hampton-Taylors Jaycees.

Dr. George W. Price Jr. of Spartanburg has been honored for his services as home physician for Mountainview Nursing Home for 17 years. **Dr. S. W. Lasoski** of Florence has been named vice chairman for the Florence Cancer Crusade. **Dr. W. H. Lacey** has resumed the practice of medicine in Moncks Corner. He is health officer for Berkeley County. **Dr. E. Arthur Dreskin** has become president of the medical staff of the Greenville Hospital system. **Dr. William R. DeLoache** is vice president and president-elect; **Dr. Thomas Kenneth Howard** is secretary. **Dr. David G. Askins Jr.** of Marion has been named to the Council of Wofford Associates. **Dr. N. B. Baroody** of Florence and **Dr. Rion Rutledge of Rock Hill** have been named committee chairmen of the Regional Advisory Group of the S. C. Regional Medical Program. **Dr. Jack Watkins** has been reelected president of the Oconee Memorial Hospital Assn. **Dr. Sam Moyle** of Walhalla is secretary. **Dr. Robert L. Galphin** has been named chief of the Pinehaven services for the Charleston County Hospital. Two South Carolina physicians have been awarded American Cancer Society Clinical Fellowships and another a third year Advanced Clinical Fellowship.

Dr. Jane K. Upshur and **Dr. H. Cooper Black Jr.** have been named for clinical fellowships and **Dr. Fletcher Derrick Jr.** has been given a third year advanced clinical fellowship. **Dr. D A. Crippen** of Toccoa, Ga., has joined the Memorial Clinic Staff of Seneca for the practice of general surgery. Seventy-five physicians from North and South Carolina attended the 49th annual meeting of the Marlboro County Medical Society in January. **Dr. R. C. Charles** is president; **Dr. John May,** vice president, and **Dr Douglas Jennings,** secretary-treasurer. **Dr. William E. Gause** has been named chief of staff at the S. C. Baptist Hospital. **Dr. Charles P. Vincent** has joined the staff of the Columbia Veterans Hospital as radiologist. **Dr. George G. Durst** has been relected chairman of the Sullivan's Island Township Commission. **Dr. P. J. Moore** has been named chief of staff of the Mountain Sanitarium and Hospital near Hendersonville. **Dr. Sidney M. Seltzer** has announced the opening of his office for the practice of ophthalmology at the Charleston Medical Center, 315 Calhoun St.

Dr. Paul T. Hopkins has been named chief of staff of the Columbia Hospital. Other officers include **Dr. W William Ledyard,** vice chief; **Dr. A. J. Richard Jr.,**

secretary. **Dr. Edward F. Parker** has been renamed chairman of the Roper Hospital Board of Commissioners. Other officers include **Dr. Joseph I. Waring**, vice chairman; **Dr. H. C. Robertson**, secretary. Board members include **Dr. Julian T. Buxton**, **Dr. Bachman Smith Jr.**, and **Dr. Harold A. Pettit**. **Dr. C. Tucker Weston** has been named chairman of the Medical Districts Committee of the S. C. Regional Medical Program's Regional Advisory Group. **Dr. Ira Barth** has relocated his office for the general practice of medicine at 1311 North Main St., English Park, Marion. **Dr. F. M. Dwight** has been elected chief of staff of the Bamberg County Memorial Hospital. **Dr. H. A. Moskow** is vice chief. **Dr. Alexander G. Donald**, director of the William S. Hall Psychiatric Institute, has been elected to the American College of Psychiatrists. **Dr. William B. Evins Jr.** of Greenville has been named a fellow of the American Academy of Orthopaedic Surgeons.

PROGRAM FOR THE MAY MEETING

Dr. Walter Bonner, chairman of the Scientific Program Committee for the Annual Meeting, has announced the following changes in the Scientific Sessions for the 1970 meeting.

All scientific sessions will be held ONLY on Tuesday, May 12.

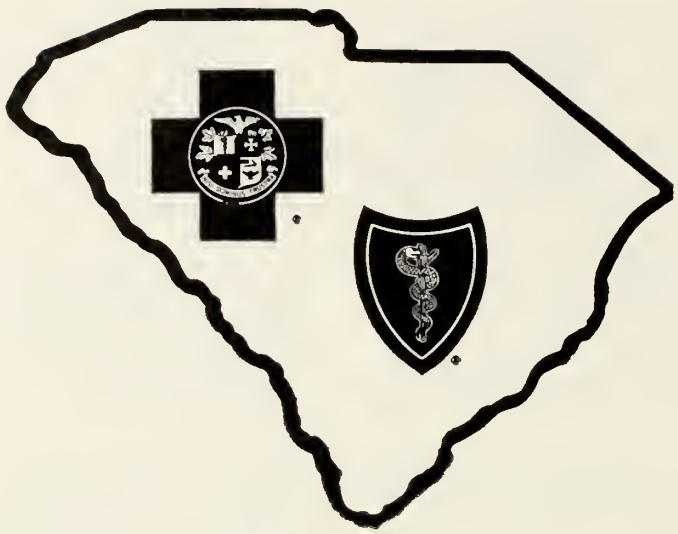
The Scientific Program has been coordinated with the programs of the Woman's Auxiliary and other groups so there will be no conflicts.

There will be several movies shown concommitantly for viewing by small groups.

Speakers for the Scientific Program include Robert Greenblatt, M.D. of Augusta, Ga., on "Tall Girls and Short Men and Other Interesting Endocrine Phenomena"; George Harrell, M.D., dean of Pennsylvanic State University School of Medicine, on "Education for Family Practice"; Harold Cross, M.D. of Hampden Highlands, Maine, on "Using Problem-Oriented Medical Records to Improve Patient Care and Education of the Physician"; E. Kenneth Aycock, M.D., State Health Officer, S. C. State Board of Health on "Levels of Patient Care—A Phase of Medical Care Administration"; Judson Graves Randolph, M.D. of Washington, D. C. on "The Severely Injured Child"; Milton Weinberg, M.D. of Chicago, Ill., on "Intensive Care of Children Undergoing Major Surgery"; and Benton D. King, M.D. of Brooklyn, N. Y., on "Respiratory Support in Chest Trouble."

RESIDENCY IN GENERAL PSYCHIATRY

An NIMH residency stipend will be available July 1, 1970 in a fully approved three year training program at the Medical University of South Carolina. The stipend is $12,000 with a dependency allowance of $500 per dependent. Applicants must have graduated from a U. S. Medical School and engaged in practice or training other than psychiatry at least four years since internship. Please apply to R. Layton McCurdy, M.D., professor and chairman, 80 Barre Street, Charleston, South Carolina 29401.



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*Source: Sixty-First Annual Report of The Department of Insurance of South Carolina.

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COUNTY SOCIETIES OFFICERS MEET

A meeting of officers of the County Medical Societies and other interested persons was held in Columbia February 1. A number of excellent and important presentations were made. The program included Mr. James Lococo on "Coordinating Public and Private Effort in Health Care," Mr. William Sandow on "Public Pressure on the Medical Care System," Dr. William Fairey on "The Need for a Medical Examiner;" "Legislation in 1970" by Frank C. Owens, M.D.; "The Development of Comprehensive Health Planning" by E. Kenneth Aycock, M.D. and "The South Carolina Regional Medical Program" by Vince Moseley, M.D.

Following is an impression by one of the participants Dr. J. Harvey Atwill Jr. of Orangeburg, Councillor for the Eighth District. This has been mailed to the physicians of the district.

"I attended yesterday in Columbia the Annual Conference of County and State Medical Society Officers and would like to share with you some of the information which was made available to those in attendance.

One matter of great concern with which you are familiar and which is being given a continuing wide distribution in the press is that of some form of "universal health insurance." It is anticipated that there will be at least 5 bills on this subject presented in this Congress with a reported excellent chance of passage in 1971. They each vary in some degree, but all have the same philosophy, i.e. more Federal involvement in both delivery and payment for health services. Payment to providers of health care would vary from fee for service on a national fee schedule, to some form of capitation, to salary arrangements. It is apparent that we can expect some form of wider federal involvement; and it would appear that our only recourse is to involve ourselves in determining the direction, manner and degree of third party control of health services.

A second area of deep and far-reaching concern to every physician in South Carolina, made even more imperative because it is already here, is Comprehensive Health Planning. South Carolina is already divided into 10 "districts". Most of us are in the Lower Savannah Regional Planning and Development Commission which encompasses Aiken, Barnwell, Allendale, Bamberg, Orangeburg and Calhoun counties. How does this concern you? Henceforth, if your community desires to build or enlarge a hospital, clinic or other health facility requiring the use of any Federal tax funds, approval must first be obtained from the Planning and Development Commission which makes recommendations to the State Commission, which has final authority. It does not require much imagination to project the degree of control exercized by such a system, particularly when you recognize that according to the definition of "health care" accepted by this organization public health, law enforcement, transportation, water usage, sewerage and others are included. The present, as well as the near and distant future, demands our involvement as physicians with the expertise that we can offer in Comprehensive Health Planning.

Medicine as we know it is confronted with serious challenges, not just "elsewhere" but right here in South Carolina and NOW. The word INVOLVEMENT is the key, and you and I must become informed and involved NOW. Let's get to work for the sake of medicine and the communities which we love."

Meeting

The Department of Ophthalmology and the Division of Continuing Education of the Medical University of South Carolina will sponsor its Fourth Annual Residents Conference April 2-4, 1970 at the Veterans Administration Hospital in Charleston.

Meetings

The Southeastern Regional Meeting of the American Association of Medical Clinics will be held Saturday, April 4, 1970, at the Lloyd Noland Hospital and Clinic, Fairfield, Alabama.

This meeting is being held in conjunction with a day long Medical Seminar to be held at the Lloyd Noland Hospital, April 3, 1970.

For more information write to Leon C. Hamric, M.D., Lloyd Noland Hospital, Fairfield, Alabama 35064.

The Greenville Post Graduate Seminar is scheduled for March 24, 25, 26. Speakers include Dr. Kenneth Walton, Dr. John J. Canary, Dr Charles B. Moore, Dr. Harris D. Riley, Dr. Edgard Hull, Dr. James Harkess, Dr. Walter Newman and Dr. Vince Moseley.

The South Carolina Heart Association will hold its annual meeting and scientific sessions April 23, 24, 25 at the Sheraton Fort Sumter Hotel in Charleston.

The Clinical Aspects of Inherited Disorders will be discussed April 9-10 at a seminar in Birmingham, Alabama. Sponsors include the Division of Continuing Medical Education, University of Alabama School of Medicine, Postgraduate Education, University of Alabama School of dentistry, the Children's Hospital of Birmingham.

As a part of its continuing education program the William S. Hall Psychiatric Institute will present a Psychosomatic Medicine Symposium on April 1-2. Genesis, basic principles, and the various kinds of somatic disorders resulting from maladaptive living will be discussed.

MEDICAL UNIVERSITY OF SOUTH CAROLINA

SCHOOL OF MEDICINE CLASS REUNIONS

The 35th Anniversary Reunion of the Class of 1935 will be held at the Cavallaro Restaurant, Charleston, on Saturday, April 4, at 6:00 p.m. Cost for the reception and dinner will be $10 each or $20 per couple. There will be a choice of lobster or steak.

Checks are to be sent to R. L. Sanders, 1415 Barnwell St., Columbia, S. C. 29201 in March. Henry Robertson is the Charleston liaison.

The 15th Anniversary Reunion of the Class of 1955 will be held at Myrtle Beach during the State Medical Association meeting on Sunday, May 10, and Monday, May 11. Cost for two receptions and one dinner will be $15 each or $30 per couple.

The opening get-together will be held on Sunday, May 10, at 4:00 p.m., at a location yet to be determined. On Monday, May 11, a reception and dinner will be held at the Jade Tree Inn, 5308 N Ocean Blvd., starting at 6:30 p.m.

Checks should be mailed to Walter Bonner, 1525 Burningtree Rd., Charleston, S. C. 29407, in March.

DISCUSSION OF LEVELS OF HOSPITAL AND NURSING HOME CARE

HARRIETT PINNER, M.D.
State Board of Health

Two phrases are commonly used to describe the salient features of progressive patient care and are most apt in describing levels of patient care—"the tailoring of hospital and nursing home services to meet the patients' needs" and "the right patient, in the right bed, with the right service, at the right time."

The principal objective of levels of care or progressive patient care is to provide better treatment and care by organizing services around the individual patient's medical and nursing needs. This can best be accomplished by setting up special nursing units to which patients are assigned in accordance with their degree of illness and need for care. Many factors must be considered. For example, nurses and other personnel are selected for their ability to provide the kinds of services needed by each group of patients. Organizational patterns and policies must be developed to facilitate the smooth operation of separate or combined levels of care.

Six groupings based on patients' needs are incorporated in the levels of care or progressive care concept. The essentials may be considered as follows:

1. *Intensive Care:* For critically and seriously ill patients who require extensive medical care and nursing care and observation. These patients are under close continuing observation of nurses who have been selected because of their special skills, training and experience. All necessary life saving emergency equipment, drugs, and supplies are immediately available.

2. *Skilled Care:* For patients requiring skilled medical and nursing care whose basic needs are relatively stable. Rehabilitation, occupational therapy, and physical therapy may be needed for these patinets. In addition, emphasis is placed on instructing these patients who must learn to adjust to their illnes and disability.

3. *Intermediate Care:* For patients who require (because of their physical or mental condition or both) minimum nursing supervision which can be made available to them only through institutional facilities. In the presence of minor illnesses or for temporary periods of time these persons may need nursing care which may be supplied from outside the facility.

4. Residental Care: For persons who need to have supervised living 24 hours a day and require support in daily living activities but no scheduled nursing or rehabilitation services. These persons will visit physicians for periodic check up; will procure nursing, therapeutic and diagnostic treatment on an appointment basis with the exception of emergency care.

5. *Outpatient Care:* For ambulatory patients requiring diagnostic, curative, preventive, and rehabilitative services. This element generally is accepted as an activity of the average hospital, usually functions on a discrete organizational basis and its utilization varies with local circumstances, including patterns of medical practice.

6. *Home Care:* For those patients who do not need hospital or nursing home care, but can be adequately cared for in the home.

Facilities or units within a facility would be organized and staffed to provide the needed institutional care in the above levels 1-5 while No. 6, or home care, could provide in levels 3 and 4 profes-

sional care not provided by the facility's staff.

Levels of care encourage the development of a coordinated pattern of services and facilities on a community-wide basis. The concept has special application to what has evolved as one of the ultimate goals of area-wide health facility planning.

In South Carolina some of our larger hospitals are now offering varying levels of care for patients. In the future some of South Carolina's larger hospitals may develop into medical service centers which would offer a wide spectrum of services and facilities for both the inpatient as well as the outpatient. This center would include a hospital offering levels of care for short term as well as long term patients, housing for the aged, a health service center containing offices for both official and voluntary agencies, facilities for private physicians' offices and a motel for ambulatory patients as well as visitors of inpatients. It should also be feasible to have a shopping center nearby. While all hospitals in South Carolina will not be able to provide the total spectrum of services included in levels of care, all can incorporate the philosophical concept of levels of care into their programs. To the extent possible smaller hospitals and nursing homes could join forces to provide needed levels of care.

The development of levels of care as well as medical service centers would result in better utilization of scarce professional and technical personnel and would permit a more flexible use of facilities as medical advances result in changes in the character of the institutionalized population. Ideally, health facilities of the future would be built in accordance with comprehensive plans developed by local areawide health planning agencies. These agencies should be comprised of top echelon community leadership which would plan for the total spectrum of health facilities on a continuous basis. Construction would be encouraged wherever needed but discouraged if found unnecessary.

Hospitals which successfully practice levels of care or progressive patient care report that the benefits are manifold. Why can this not also apply to nursing homes that establish levels of care? The benefits extend to the patient, the physician, the nurse, and the facility's administrators (those involved in the facility's operations). Some of the primary advantages for each include:

The *patient* receives quality care sufficient to his needs and at the time of need.

The *physician* is given greater assurance that his patient is receiving high quality nursing care, and that the special drugs, medications, and equipment necessary for diagnosis and treatment are in the immediate vicinity of the patient. Since involvement of the physician is necessary in setting up levels of care he is made aware of the facility's problems and policies. This creates better understanding and promotes better clinical services, team action, and administration. The physician also figures prominently in the facility's in-service training program.

The *nurse* makes effective use of her special capabilities, and the nursing department is less harassed by problems of providing coverage for critically ill patients in scattered areas.

Levels of care or progressive patient care, through the organization of services and skills based on the needs of patients, can help to make comprehensive specialized nursing care available to patients during different stages of illnesses. Since nursing supervisors, head nurses, and nursing team leaders work closely together in planning for total patient care, coordination of patient nursing care emerges as a major responsibility of the professional nurse. Moreover, the nurse has an opportunity to utilize her competencies more effectively, thereby acquiring greater job satisfaction.

The facility, both hospital and nursing home, has an opportunity for enhancing the quality of patient care as a result of effective and efficient use of personnel, beds, physical facilities, equipment, supplies, and funds. Better utilization of better trained personnel means not only better patient care but less personnel turnover, a hidden and costly factor in institutional operation. More effective utilization of existing beds can help reduce capital outlay for new construction. All of these factors add up to better administration and an improved "public image" of the facility in the community which supports the institution.

Through Home Health Services a hospital or nursing home becomes more acutely aware of services rendered by other community health facilities. Since the concept of levels of care extends beyond the walls of a hospital or nursing home an important link is formed with other health groups and agencies. This should be beneficial to all concerned and, hopefully, may lead to greater cooperation by all agencies and facilities providing health care.

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DEATH

Dr. Charles Pinckney Ryan

Dr. Charles Pinckney Ryan, 69, prominent Ridgeland physician, died at the Ridgeland Hospital January 29, 1970.

He was born in Tampa, Fla., Aug. 19, 1900, a son of the late Dr. W. B. Ryan and Mary Winkler Ryan He had practiced medicine in Ridgeland for 45 years and was chief surgeon of the Ridgeland Hospital for the past 30 years. He delivered more than 5,000 babies during his practice in Ridgeland. He was one of five brothers who were all medical doctors. His father had practiced medicine in Ridgeland for 63 years.

PHYSICIANS PLACEMENT

Thirty-four year old board eligible general surgeon will complete military obligation with the Navy in June, 1970 and is interested in available opportunities in this state.

General surgeon, age 32, completing residency in Washington, D. C.; board eligible in July, 1970. Desires partnership or association with established surgeon in city in academically stimulating practice.

Thirty-five year old physician completing residency in obstetrics and gynecology. Will be board eligible on June 30, 1970. Wishes to locate in the Southeast, preferably near coastal area.

Radiologist certified in diagnosis, therapy and isotopes wishes to enter into private practice in this state. Has faculty teaching experience.

For more information concerning this column, write to the Journal of the South Carolina Medical Association, 80 Barre Street, Charleston, S. C. 29401.

Board certified urologist, 52 years old, is seeking community where he might open solo practice. Write: Box 7968 I c o AMA, 535 North Dearborn St., Chicago, Ill. 60610.



"Hello, Ajax pharmacy? I understand you had some difficulty reading my handwriting . . ."

Book Reviews



DR. ALEXANDER GARDEN OF CHARLES TOWN by Edmund Berkeley and Dorothy Smith Berkeley. The University of N. C. Press, Chapel Hill. N. C. Pp 379. $10.

The story of the life of Dr. Alexander Garden has long called for a full and sympathetic treatment. In this book by two competent investigators the nature of the man and of his accomplishments had been portrayed accurately, interestingly, and attractively.

Garden was one of the few outstanding American scientists in the 18th Century. His true concern was with natural history, botany in particular. Correspondent of European and American savants, recipient of numerous honors, among them the naming of the gardenia for him, he was a large figure in the life of colonial Charleston.

A busy practice sometimes interfered with his botanical interests. Nevertheless he was esteemed as a competent physician and a leader locally in his profession. Loyalty to the Crown drove him from South Carolina after the Revolution.

J. I. W.

TOBACCO AND YOUR HEALTH: THE SMOKING CONTROVERSY, by Harold S. Diehl, M.D. McGraw-Hill Series in Health Education. New York, 1969. Pages 271. $2.95.

The incandescent glow of a lighted cigarette continues to herald the self-destructive inclinations of a frightening percentage of the U. S. population. The unreasonable doubt that smoking is harmful to health is perpetuated by the massive and virtually unrestricted propaganda efforts of the cigarette industry. The value of this book lies in the thoughtful and thought provoking compilation of fact and opinion regarding this. The book is more than an arm chair version of the 1967 Surgeon General's Report, and might well be referred to as the Almanac of Smoking. Cautious avoidance of emotionalism, careful assessment of factors which influence smokers' attitudes, and reasonable consideration of conflicting opinions characterize this highly readable book. Every physican should consider this book an integral part of his library.

Peter Hairston, M.D.

THE COMPLEAT PEDIATRICIAN by Wilburt C. Davison. Edited by Dr. Jay M. Arena. Ninth Edition. Lea & Febiger, Philadelphia. Pa. Pp 792.

Begun in 1919 as a handy collection of information pertinent to the practice of pediatrics, arranged in very usable form, comprehensive and clear, *The Compleat Pediatrician* was a boon to the practitioner. Of a size and weight suitable for carrying in the handbag, it made many a round of visits when visiting patients was an established custom.

Through eight editions it has come in revised but eminently useful form to its present state. The format has now been changed; the system of reference is more conventional, the type more legible, and the burden on the hand and wrist is still tolerable. Information has been expanded, up-dated, and expounded by the efforts of fifteen members or former members of the faculty of Duke University Medical School, who have in this combined effort rendered a fitting tribute to the original author, Dr. Wilburt C. Davison, now retired as Dean of the Medical School and Chairman of the Pediatric Department at Duke.

This is a book decidedly useful to the pediatrician or the general practitioner.

J. I. W.

ARROWS OF MERCY by Philip Smith, Doubleday & Company, New York, 244 pages, $5.95.

The story of curare, the drug which has risen from a rather macabre status as a deadly poison to an accepted position in the armamentarium of the anesthetist, is told in detail by the author. The ways in which its potential for beneficial use were recognized are described with accuracy and warmth. Many byways in its development are described, and many famous names are brought into the road of progress to current recognition—von Humboldt, Bernard and others.

Numerous anecdotal passages add to the narrative, which gives a story that should appeal to lay and medical people alike.

J. I. W.

INTERNAL MEDICINE IN WORLD WAR II, VOLUME 3, INFECTIOUS DISEASES AND GENERAL MEDICINE. Published by the Office of the Surgeon General, Department of the Army, Superintendent of Documents, Government Printing Office, Washington, D. C., Pp. 712. $8.25.

This volume is the third and last summarizing experiences in internal medicine During World War II. Although much of the volume deals with infectious disease, it also includes sections on cardiology, dermatology, allergy and other related diseases. Each section is edited by an individual with experience in this area and as one reads the list of contributors, one recognizes names of many of contemporary medicine's academic leaders.

This book is not a textbook in the usual sense of the word. For those desiring such a volume, a more current text would be preferred. If one is

interested, however, in a study of certain diseases, their discovery and the evolution of their treatment in much more depth than is possible in the standard textbook of medicine, this volume is a valuable resource. Herein also is described the discovery of certain new infections such as "Bullis Fever." The discovery of the latter was largely the effort of the Army Epidemiology Service.

In this text are lengthy and informative sections on seldom seen infections such as leishmaniasis, schistosomiasis, filariasis, etc. The importance of familiarity with these diseases in our present age does not need re-emphasis. Here is also described the tragic but exciting outbreak of serum hepatitis in World War II which resulted from the use of human serum to stabilize the yellow fever vaccine.

This volume, like its predecessors, is handsomely bound. In short, it is a valuable collection of historical data welcome in any medical library. I am sorry there are no more to come.

Louis P. Jervey, M.D.

BIRTH DEFECTS. ORIGINAL ARTICLE SERIES. THE FIRST CONFERENCE ON THE CLINICAL DELINEATION OF BIRTH DEFECTS. PART II. MALFORMATION SYNDROMES. Edited by Daniel Bergsma, M.D., with Victor A. McKusick, M.D., Judith G. Hall, M.D., Charles I. Scott, M.D., Associate Editors. Camille Jackson, Assistant Editor. Hal L. Childs, Art and Production Director. The National Foundation—March of Dimes, Publisher, 800 Second Avenue, New York, New York 10017. February, 1969. Pp. 284. $15.00.

In a day and time in which syndromes are fashionable, this book is in high style. The contents, which represent a composite of conference presentations, are concerned with the clinical delineation of human birth defects. This is exquisitely done. The total pattern of the malformations is systematically presented. This includes initial abstracts, readable descriptions, beautiful photographs of patient material, handsome illustrations, appropriate family pedigress, tables, charts, and realistic references. A brief biographic sketch of the senior author accompanies each article. Separately, 18 relevant cases are reported with descriptive pictures of these patients. The appendix presents in tabular form a magnificent core pattern of anomalies associated with various syndromes together with information regarding associated mental or growth deficiency, a speculative approach to genetic etiology, and reference credit. Indexing is as satisfactory as possible considering the difficult overlap of symptom-sign complex included.

This is a highly readable and well illustrated Original Article Series intended primarily as a reference source for physician's working in a broad area of medical disciplines which encompass malformation syndromes.

Samuel K. Morgan, M.D.

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50 YEARS

The Journal of the South Carolina Medical Association

March 1920

The need for hospital standardization was discussed and the new Medical Practice Act was announced. Dr. B. O. Whitten discussed provisions for the feebleminded in the state, and plans for the training school for the feebleminded at Clinton. Horlick's Malted Milk was advertised as "valuable in typhoid, pneumonia, and influenza."

Antiarrhythmic Prophylaxis With Procainamide in Acute Myocardial Infarction—J. Koch-Weser et al. New Eng J Med 281:1253-1260 (Dec 4) 1969.

The effectiveness of prophylactic therapy with procainamide in preventing active ventricular arrhythmias after acute myocardial infarction was determined in a double-blind study using electrocardiographic monitoring. Seventy patients with acute infarctions uncomplicated by shock, heart block or severe heart failure were studied. Following a loading dose, 250, 375, or 500 mg procainamide or placebo were administered every three hours according to patient weight. Procainamide afforded highly significant protection against all types of active ventricular arrhythmias, markedly reduced the need for acute therapy of arrhythmias, and prevented death from active arrhythmias. Adverse effects of procainamide therapy occurred only in patients with excessive plasma concentrations. The efective plasma procainamide concentration for suppressing active ventricular arrhythmias atter acute myocardial infarction is 4 to 6 mg/liter. Lower plasma levels protect incompletely while concentrations above 7 mg/liter can produce adverse cardiovascular effects.

Time-motion study of six pediatric office assistants.— Patterson, P. K., Bergman, A. B. New Eng J Med 281:771-774, (Octobre 2) 1969.

Observation of the assistants in six private pediatric offices (four registered nurses and two "medical assistants") for three days with a stopwatch to determine their work patterns showed an average of only 21 per cent of the work day spent "with patients." Nurses trained for three years performed the same functions as "'medical assistants" trained for six months. Nurses are inefficiently used in private offices, a fact that should be remedied by more specific training in nursing school, and more appropriate task delegation by physician employers.

Hypertension Induced by Oral Contraceptives Containing Estrogen and Gestagen—M. H. Weinberger et al A. Leutscher, Ann Intern Med 71:891-902 (Nov) 1969.

Of 53 women referred for study of hypertension, 16 were taking estrogen-gestagen combinations. When oral contraceptives were discontinued, blood pressure declined gradually over a period of one to three months. Of 11 patients who had normal blood pressure before taking estrogen-gestagen, five have maintained blood pressure within normal limits for six months or longer after medication was withheld. In the remaining patients blood pressure has fallen to lower levels than those observed on estrogen-gestagen combinations but remains above upper limits of normal. Administration of an estrogen-gestagen combination regularly increased the concentration of angiotensinogen in plasma and very high plasma renin activity was found in some patients. Aldosterone secretion and excretion rates were higher during estrogen-gestagen administration than after the medication was withheld.

Early Puerperal Douching: Its Therapeutic Value— William F. Peterson, Col., USAF, MC, Clin Med 76:36-39, 1969.

1. A total of 321 patients was evaluated during their postpartum course. Following the two-week examination 216 were instructed to douche twice daily, 103 using an alkaline and 113 an acid douche, and 105 were used as controls without special instructions.

2. At six weeks, all patients were evaluated by history and examination at which time cultures vaginal smears, and vaginal pH were taken.

3. Patient acceptance of early puerperal douching was high and adverse effects were minimal.

4. Douching, initiated during the third postpartum week, is a safe and satisfactory procedure resulting in a higher incidence of healthy cervices at the six week examination.

5. Contrary to popular belief, douching with an alkaline solution was found to be as beneficial as douching with an acid solution; furthermore, it h no deleterious effect on the vaginal flora and ap peared to have the advantage of producing a health ier and cleaner vaginal smear.

Preoperative communication in anorectal surgery: for increased benefit to patient and surgeon.— Lion Banov, Jr. (Charleston) Amer Surg 34:597-601, Aug. 1968.

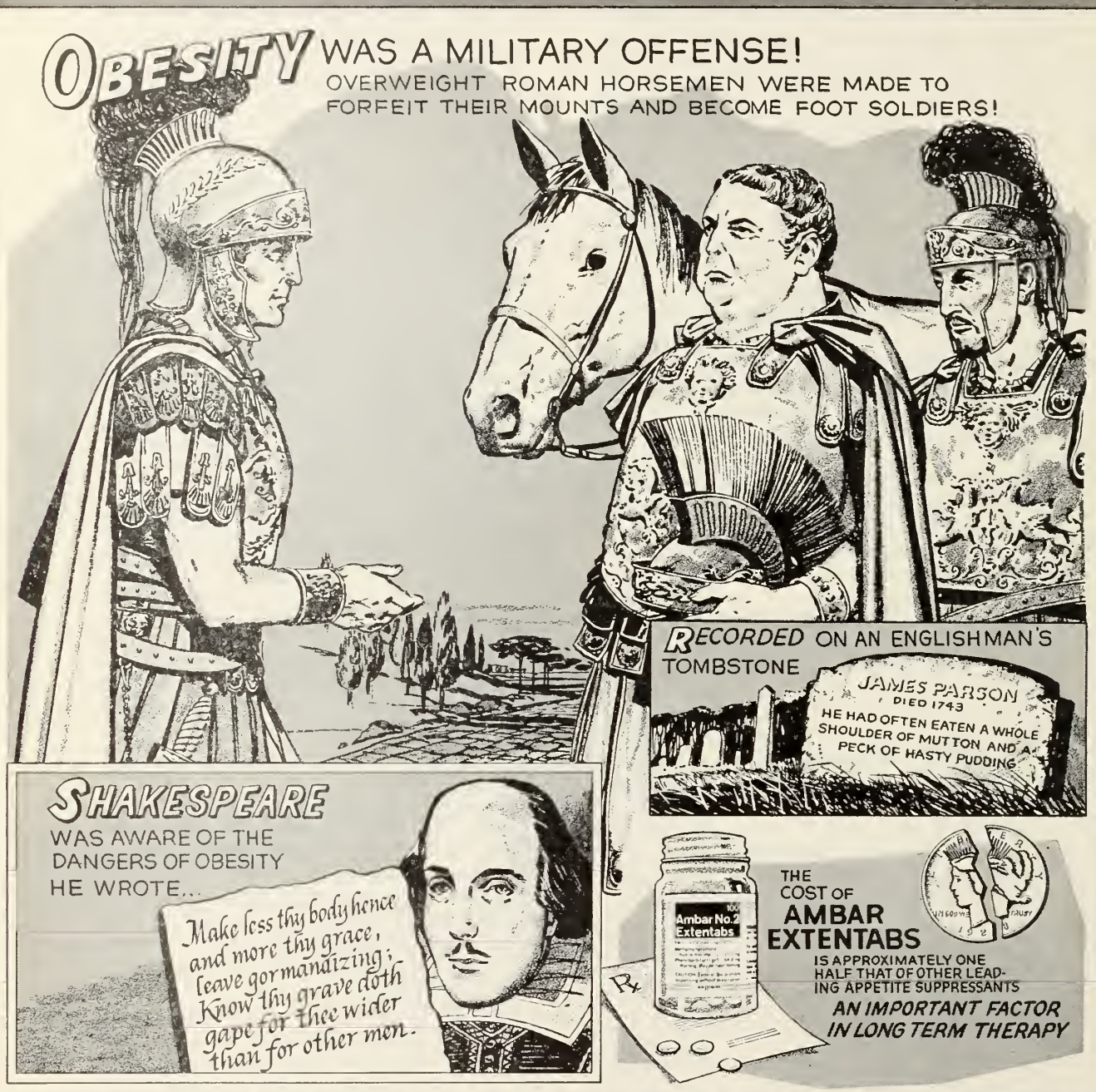
Although increasing research is being devoted to perfecting operative technics, direct preoperative communication with the patient should be studied and developed. Good communication, fostering good rapport, promotes better postoperative results. Satisfactory response of the surgical patient depends upon proper application of the surgeon's skills, but this response can be improved by adequate preoperative communication to insure the patient's fullest cooperation.

This article presents detailed preoperative instructions for patients undergoing anorectal operations. These instructions have been used successfully and can serve as a model for others. While words and phrases will vary with the surgeon, information should be ample and easily understood by all patients. L. B. Jr.

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FACT & LEGEND



CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY, RICHMOND, VA. 23220 A·H·ROBINS

Doctor, after all we've been through together...

abscess
acne
amebiasis
anthrax
bacillary dysentery
bartonellosis
bronchitis
bronchopulmonary infection
brucellosis
chancroid
diphtheria
endocarditis
genitourinary infections
gonorrhea
granuloma inguinale
listeriosis
lymphogranuloma
mixed bacterial infection
osteomyelitis
otitis
pertussis
pharyngitis
pneumonia
psittacosis
pyelonephritis
Rocky Mountain spotted fever
scarlet fever
septicemias
sinusitis
soft tissue infection
tonsillitis
tularemia
typhus fever
urethritis

...don't you think it's time we were on a first-name basis?

call me "Achro® V"



Every pharmacist knows ACHRO® V stands for ACHROMYCIN® V

Contraindications: Hypersensitivity to tetracycline.
Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.
Precautions: Nonsusceptible organisms may overgrow; treat superinfection appropriately. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).
Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage. Upon adverse reaction, stop medication and treat appropriately.

Achromycin® V
Tetracycline

Lederle LEDERLE LABORATORIES • A Division of American Cyanamid Company, Pearl River, New York 10965

484-9

A once-popular treatment for back pains was to have the seventh son of a seventh son stand or walk on the patient's back.





The pain of earache was allegedly relieved by holding a hot roasted onion to the ear.

For headache, a sovereign remedy was to wear a snakeskin round one's head.



A realistic approach to pain relief



Empirin'®

Compound with Codeine Phosphate gr. 1/2 No. 3

Each tablet contains:
Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.

keeps the promise of pain relief

'B.W. & Co.' narcotic products are Class "B", and as such are available on oral prescription, where State law permits.

BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe, N.Y.



Nose clear as a whistle

(THANKS TO DIMETAPP®)

Dimetapp Extentabs® does an outstanding job of helping to clear up the stuffiness, drip and congestion of colds and upper respiratory allergies and infections. Each Extentab keeps working up to 12 hours. And for most patients drowsiness or overstimulation is unlikely. Try Dimetapp. It clearly works.

FOR UPPER RESPIRATORY ALLERGIES AND INFECTIONS

Dimetapp Extentabs®

Dimetane® (brompheniramine maleate), 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.

UP TO 12 HOURS CLEAR BREATHING ON ONE TABLET

Indications: Dimetapp is indicated for symptomatic relief of the allergic manifestations of respiratory illnesses, such as the common cold and bronchial asthma, seasonal allergies, sinusitis, rhinitis, conjunctivitis, and otitis.
Contraindications: Hypersensitivity to antihistamines. Not recommended for use during pregnancy.
Precautions: Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.
Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.
Dosage: 1 Extentab morning and evening.
Supplied: Bottles of 100 and 500.

A.H. ROBINS COMPANY
RICHMOND, VA. 23220

A·H·ROBINS

Hasn't the driver had enough excitement for one day?

For the patient who has been through an accident, the worry and anxiety following the mishap may actually heighten the perception of pain. This is why there's a classic ¼ grain *sedative* dose of phenobarbital in Phenaphen with Codeine—to take the nervous "edge" off, so the rest of the formula can control the pain more effectively.



Driver Escapes Serious Injury When Truck Jackknifes

SHENANDOAH, JULY 16. Roger Sherman of Waynesboro suffered head lacerations but escaped serious injury when the tractor-trailer he was driving skidded on Deep Run Bridge and jackknifed. It took rescue workers thirty minutes to remove him from the cab which was dangling over the edge of the bridge. Sherman is resting comfortably in University Hospital where his condition is listed as satisfactory.

Frankhouser called my attenti

Phenaphen® with Codeine

Phenaphen with Codeine Nos. 2, 3, or 4 contains: Phenobarbital (¼ gr.), 16.2 mg. (warning: may be habit forming); Aspirin (2½ gr.), 162.0 mg. Phenacetin (3 gr.), 194.0 mg.; Hyoscyamine sulfate, 0.031 mg. Codeine Phosphate, ¼ gr. (No. 2), ½ gr. (No. 3), or 1 gr. (No. 4) (warning: may be habit forming).

The compound analgesic that calms instead of caffeinates

Indications: Phenaphen with Codeine provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon, although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.

A. H. Robins Company, Richmond, Va. 23220 A·H·ROBINS





Benylin®
EXPECTORANT

Each fluidounce contains: 80 mg. Benadryl® (diphenhydramine hydrochloride), Parke-Davis; 12 grains ammonium chloride; 5 grains sodium citrate; 2 grains chloroform; 1/10 grain menthol; and 5% alcohol. An antitussive and expectorant for control of coughs due to colds or of allergic origin, BENYLIN EXPECTORANT *is the leading cough preparation of its kind.* BENYLIN EXPECTORANT *tends to inhibit cough reflex ...soothes irritated throat membranes. And its not-too-sweet, pleasant raspberry flavor makes* BENYLIN EXPECTORANT *easy to take.*

PRECAUTIONS: *Persons who have become drowsy on this or other antihistamine-containing drugs, or whose tolerance is not known, should not drive vehicles or engage in other activities requiring keen response while using this preparation. Hypnotics, sedatives, or tranquilizers if used with* BENYLIN EXPECTORANT *should be prescribed with caution because of possible additive effect. Diphenhydramine has an atropine-like action which should be considered when prescribing* BENYLIN EXPECTORANT.

ADVERSE REACTIONS: *Side reactions may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, and blurring of vision have been reported. Allergic reactions may occur.*

PACKAGING: *Bottles of 4 oz., 16 oz., and 1 gal.*

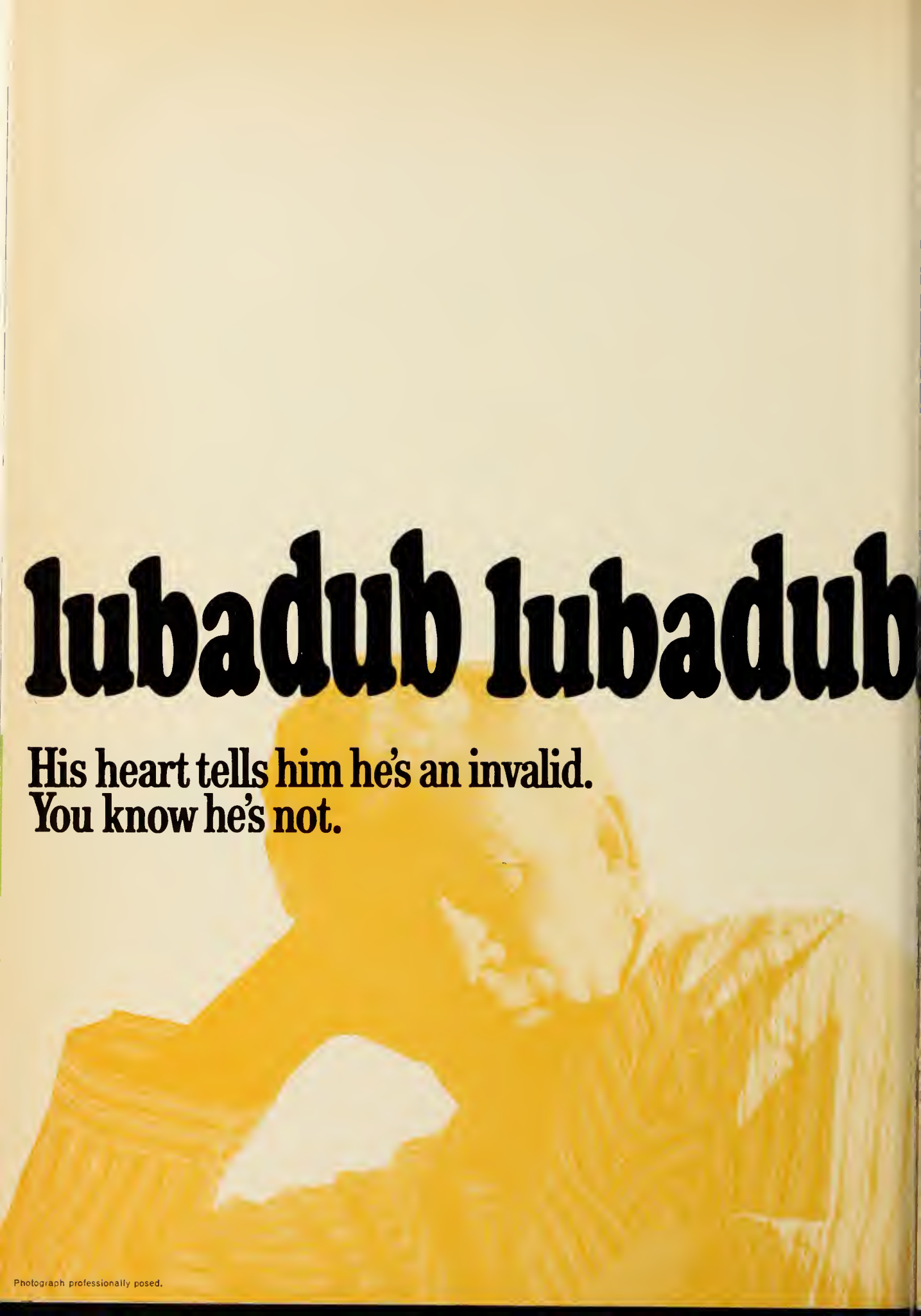
Parke, Davis & Company, Detroit, Michigan 48232

PARKE-DAVIS

50669

lubadub lubadub

His heart tells him he's an invalid.
You know he's not.



Photograph professionally posed.

Contraindications: History of sensitivity to meprobamate.

Important Precautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use has been reported to result in dependence or habituation in susceptible persons, as alcoholics, ex-addicts, and other severe psychoneurotics. After prolonged excessive dosage, reduce dosage gradually to avoid possibly severe withdrawal reactions. Abrupt discontinuance of excessive doses has sometimes resulted in epileptiform seizures.

Warn patients of possible reduced alcohol tolerance, with resultant slowing of reaction time and impairment of judgment and coordination.

Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep; reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated.) Doses above 2400 mg./day are not recommended.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. (All tablets also available in REDIPAK® [strip pack], Wyeth.) Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

Wyeth Laboratories Philadelphia, Pa.

Equanil®
(meprobamate) Wyeth®

ibadubdub lubadu

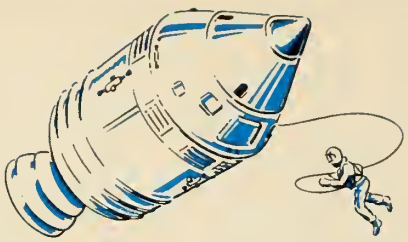
Anxiety is expected in the cardiovascular patient. A little may even be desirable.

But when anxiety is exaggerated . . . when it interferes with sleep . . . when it aggravates cardiovascular symptoms, your help may be needed.

Naturally, you'll want to reassure the patient.

And perhaps prescribe Equanil (meprobamate) as adjunctive therapy. It helps relieve anxiety and tension specifically, yet gently.

Almost 15 years' use has shown that Equanil is usually well tolerated as well as effective. Side effects are generally limited to transient drowsiness; serious, therapy-interrupting side effects are rare.



Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.

Uro-Phosphate®

NOW A SUGAR-COATED TABLET

Each tablet contains: METHENAMINE, 300 mg.; SODIUM ACID PHOSPHATE, 500 mg.

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

A clinical supply will be sent to physicians and hospitals on request.

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

Manufacturers of Ethical Pharmaceuticals

IN WEIGHT CONTROL

AMPHAPLEX®



Each AMPHAPLEX 10 tablet contains: Methamphetamine Saccharate: 2.5 mg. Methamphetamine Hydrochloride: 2.5 mg. Amphetamine Sulfate: 2.5 mg. Dextroamphetamine Sulfate: 2.5 mg. (AMPHAPLEX 20 tablets contain twice this potency) Pat. # 2748052

INDICATIONS: This combination of amphetamines may be useful as an adjunct in the management of certain forms of obesity where an appetite depressant is indicated.

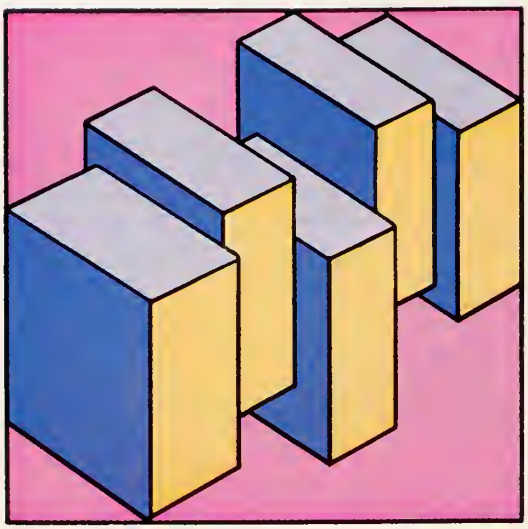
CONTRAINDICATIONS: Hypertension, advanced arteriosclerosis, coronary artery disease, cardiac arrhythmias, peripheral vascular disease, states of undue restlessness, anxiety, excitement, agitated depression, hyperthyroidism, idiosyncrasy to amphetamine, congonitant administration of a monoamine oxidase Inhibitor.

PRECAUTIONS: Use with caution in individuals with anorexia, insomnia, vasomotor instability, asthenia, psychopathic personality, a history of homicidal or suicidal tendencies, and individuals who are known to be hyperreactive to sympathomimetic agents, or emotionally unstable individuals who are known to be susceptible to drug abuse. Certain monoamine oxidase inhibitors may potentiate the action of AMPHAPLEX.

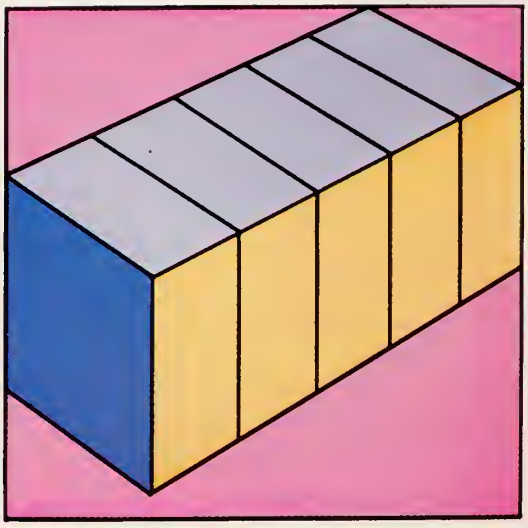
SIDE EFFECTS: The most common side effects attended with the use of amphetamine include nervousness, excitability, euphoria, insomnia, dryness of mouth, nausea, vertigo, constipation, and headache.

DOSAGE AND ADMINISTRATION: Initial adult dose is one-half to one 'AMPHAPLEX-10' tablet daily, preferably one-half to one hour before meals. This may be gradually increased to one 'AMPHAPLEX-10' or 'AMPHAPLEX-20' tablet one to three times daily as indicated.

PALMEDICO, INC. • DRAWER 3397 • COLUMBIA, S. C. 29203



from the discord of anxiety...



to emotional harmony

Before prescribing, please consult complete product information, a summary of which follows:

INDICATIONS: Indicated when anxiety, tension and apprehensian are significant campanents af the clinical prafile.
CONTRAINDICATIONS: Patients with knawn hypersensitivity ta the drug.
WARNINGS: Cautian patients abaut passible cambined effects with alcahal and ather CNS depressants. As with all CNS-acting drugs, cautian patients against hazardous occupatians requiring camplete mental alertness (e.g., aperating machinery, driving). Thaugh physical and psychalagical dependence have rarely been reparted an recammended dases, use cautian in administering ta addictian-prane individuals ar thase wha might increase dasage; withdrawal symptams (including canvulsians), fallawing discantinuatian af the drug and similar ta thase seen with barbiturates, have been reparted. Use af any drug in pregnancy, lactatian, ar in wamen af childbearing age requires that its patential benefits be weighed against its passible hazards.
PRECAUTIONS: In the elderly and debilitated, and in children aver six, limit ta smallest effective dasage (initially 10 mg ar less per day) ta preclude ataxia ar aversedatian, increasing gradually as needed and talerated. Nat recammended in children under six. Thaugh generally nat recammended, if cambinatian therapy with ather psychatrapics seems indicated, carefully consider individual pharmacalagic effects, particularly in use af patentiating drugs such as MAO inhibitars and phenathiazines. Observe usual precautians in presence af impaired renal ar hepatic functian. Paradaxical reactians (e.g., excitement, stimulatian and acute rage) have been reparted in psychiatric patients and hyperactive aggressive children. Emplay usual precautians in treatment af anxiety states with evidence af impending depressian; suicidal tendencies may be present and pratective measures necessary. Variable effects an blaad caagulatian have been reparted very rarely in patients receiving the drug and aral anticaagulants; causal relationship has nat been established clinically.
ADVERSE REACTIONS: Drawsiness, ataxia and canfusian may accur, especially in the elderly and debilitated. These are reversible in mast instances by praper dosage adjustment, but are alsa accasianally abserved at the lawer dasage ranges. In a few instances syncape has been reparted. Alsa encauntered are isalated instances af skin eruptians, edema, minar menstrual irregularities, nausea and canstipatian, extrapyramidal symptoms, increased and decreased libida--all infrequent and generally cantralled with dasage reductian; changes in EEG patterns (law-valtage fast activity) may appear during and after treatment; blaad dyscrasias (including agranulacytasis), jaundice and hepatic dysfunctian have been reparted accasianally, making periadic blaad caunts and liver functian tests advisable during pratracted therapy.

with the aid of antianxiety

Librium®
(chlordiazepoxide HCl)

5-mg, 10-mg
and 25-mg capsules

In an age of swift change and challenge, susceptible individuals may experience varying degrees af excessive anxiety. The resulting emotional stress may precipitate significant functional disorders ar camplicate existing organic disease. In praperly individualized maintenance dosage, Librium (chlardiazepoxide HCl) quickly helps relieve anxiety and apprehensian, pravides useful adjunctive therapy in psychophysiolagic disarders. In lang clinical experience, Librium has demanstrated a wide margin of safety.

Also available:
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(chlordiazepoxide)

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The Journal of The SOUTH CAROLINA *Medical Association*

LEPTOSPIROSIS

RENAL VEIN THROMBOSIS

THE SURGEON AND HIS CAP

LUTEMBACHER'S SYNDROME

SOUTH CAROLINA MATERNAL MORTALITY

ANNUAL MEETING—MAY 11, 12, 13, 1970
MYRTLE BEACH

CLUME 66 APRIL, 1970 NUMBER 4



TES-TAPE®

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Snip, dip, compare—that's all

An easy, accurate test-paper method for the qualitative and semiquantitative determination of urine glucose

Additional information available upon request.

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The girth control pill



Tepanil® Ten-tab®

(continuous release form)

(diethylpropion hydrochloride)

works on the appetite not on the 'nerves'

When girth gets out of control, TEPANIL can provide sound support for the weight control program you recommend. TEPANIL reduces the appetite—patients enjoy food but eat less. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation.

Contraindications: Concurrently with MAO inhibitors, in patients hypersensitive to this drug; in emotionally unstable patients susceptible to drug abuse.

Warning: Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovascular disease. Do not use during first trimester of pregnancy unless potential benefits outweigh potential risks.

Adverse Reactions: Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence. As is characteristic of sympathomimetic agents, it may occasionally cause CNS effects such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported. Sympathomimetic cardiovascular effects reported include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others. Allergic phenomena reported include such conditions as rash, urticaria, ecchymosis, and erythema. Gastrointestinal effects such as diarrhea, constipation, nausea, vomiting, and abdominal discomfort have been reported. Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia. A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

Convenience of two dosage forms: TEPANIL Ten-tab tablets: One 75 mg. tablet daily, swallowed whole, in midmorning (10 a.m.); TEPANIL: One 25 mg. tablet three times daily, one hour before meals. If desired, an additional tablet may be given in midevening to overcome night hunger. Use in children under 12 years of age is not recommended.

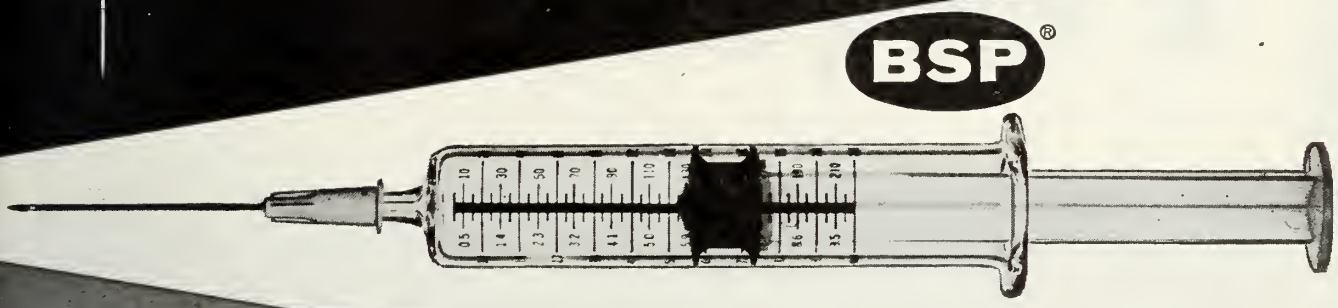
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HW&D BRAND OF SODIUM SULFOBROMOPHTHALEIN INJECTION, USP

(50 mg. per ml.)



BROMSULPHALEIN® IN A STERILE, DISPOSABLE, ECONOMICAL UNIT

The Bromsulphalein test is a convenient, sensitive, reliable test of liver function.

The precalibrated syringe contained in the BSP Disposable Unit makes weight calculations unnecessary, providing proper dosage regardless of patient-weight. Each unit contains complete directions for use, precautions and contraindications.

The all-inclusive BSP Disposable Unit provides economic unit dispensing.

Complete literature available on request.

HYNSON, WESTCOTT & DUNNING, INC.

Baltimore, Maryland 21201

(BSP04)

raldrate

(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup containing 10 gra s in each teaspoonful.

J. and V.

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Richmond 26, Virginia

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APRIL, 1970—VOL. 66, NO. 4

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

Contributions of Original Articles

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard— e.g. mg, ml, Gm.

Reprints—Reprints will be made for the author at established rates.

for the problem drinker



Berocca®

TABLETS
high potency B-complex and C
for nutritional support

AVAILABLE ONLY ON Rx

contains water-soluble vitamins only

b.i.d. dosage

good patient acceptance

no odor, and virtually no aftertaste

Each Berocca Tablet contains:

Thiamine mononitrate	15 mg
Riboflavin	15 mg
Pyridoxine HCl	5 mg
Niacinamide	100 mg
Calcium pantothenate	20 mg
Cyanocobalamin	5 mcg
Folic acid	0.5 mg
Ascorbic acid	500 mg

Usual dosage is one tablet b.i.d.

Indications: Nutritional supplementation in conditions in which water-soluble vitamins are required prophylactically or therapeutically.

Warning: Not intended for treatment of pernicious anemia or other primary or secondary anemias. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with pernicious anemia who receive more than 0.1 mg of folic acid per day and who are inadequately treated with vitamin B_{12}.

Dosage: 1 or 2 tablets daily, as indicated by clinical need.

Available: In bottles of 100.

ROCHE

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

IN WEIGHT CONTROL

AMPHAPLEX®



Each AMPHAPLEX 10 tablet contains: Methamphetamine Saccharate: 2.5 mg. Methamphetamine Hydrochloride: 2.5 mg. Amphetamine Sulfate: 2.5 mg. Dextroamphetamine Sulfate: 2.5 mg. (AMPHAPLEX 20 tablets contain twice this potency) Pat. # 2748052

INDICATIONS: This combination of amphetamines may be useful as an adjunct in the management of certain forms of obesity where an appetite depressant is indicated.

CONTRAINDICATIONS: Hypertension, advanced arteriosclerosis, coronary artery disease, cardiac arrhythmias, peripheral vascular disease, states of undue restlessness, anxiety, excitement, agitated depression, hyperthyroidism, idiosyncrasy to amphetamine, congonitant administration of a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in individuals with anorexia, insomnia, vasomotor instability, asthenia, psychopathic personality, a history of homicidal or suicidal tendencies, and individuals who are known to be hyperreactive to sympathomimetic agents, or emotionally unstable individuals who are known to be susceptible to drug abuse. Certain monoamine oxidase inhibitors may potentiate the action of AMPHAPLEX.

SIDE EFFECTS: The most common side effects attended with the use of amphetamine include nervousness, excitability, euphoria, insomnia, dryness of mouth, nausea, vertigo, constipation, and headache.

DOSAGE AND ADMINISTRATION: Initial adult dose is one-half to one 'AMPHAPLEX-10' tablet daily, preferably one-half to one hour before meals. This may be gradually increased to one 'AMPHAPLEX-10' or 'AMPHAPLEX-20' tablet one to three times daily as indicated.

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So you think you're pretty shrewd at avoiding insurance men!

After all, you're in good health now. You don't plan to get sick or hurt. But who's kidding who? What happens when an accident or sickness cuts off your earning power and your income stops? Who pays the bills?

If you're really a shrewd person you're clever enough to have an Income Protection Plan from Educators Mutual Life. It's the one plan that's recommended by your local society, and serviced by a local representative. Take a few minutes now to find out, without obligation, the many advantages of our Income Protection Plan.

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Box 3201 Florence, S. C. 29501

for the debilitated geriatric patient



Berocca®

TABLETS
high potency B-complex and C
for nutritional support

AVAILABLE ONLY ON Rx

contains water-soluble vitamins only

b.i.d. dosage

good patient acceptance

no odor, and virtually no aftertaste

Each Berocca Tablet contains:

Thiamine mononitrate	15 mg
Riboflavin	15 mg
Pyridoxine HCl	5 mg
Niacinamide	100 mg
Calcium pantothenate	20 mg
Cyanocobalamin	5 mcg
Folic acid	0.5 mg
Ascorbic acid	500 mg

Usual dosage is one tablet b.i.d.

Indications: Nutritional supplementation in conditions in which water-soluble vitamins are required prophylactically or therapeutically.

Warning: Not intended for treatment of pernicious anemia or other primary or secondary anemias. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with pernicious anemia who receive more than 0.1 mg of folic acid per day and who are inadequately treated with vitamin B_{12}.

Dosage: 1 or 2 tablets daily, as indicated by clinical need.

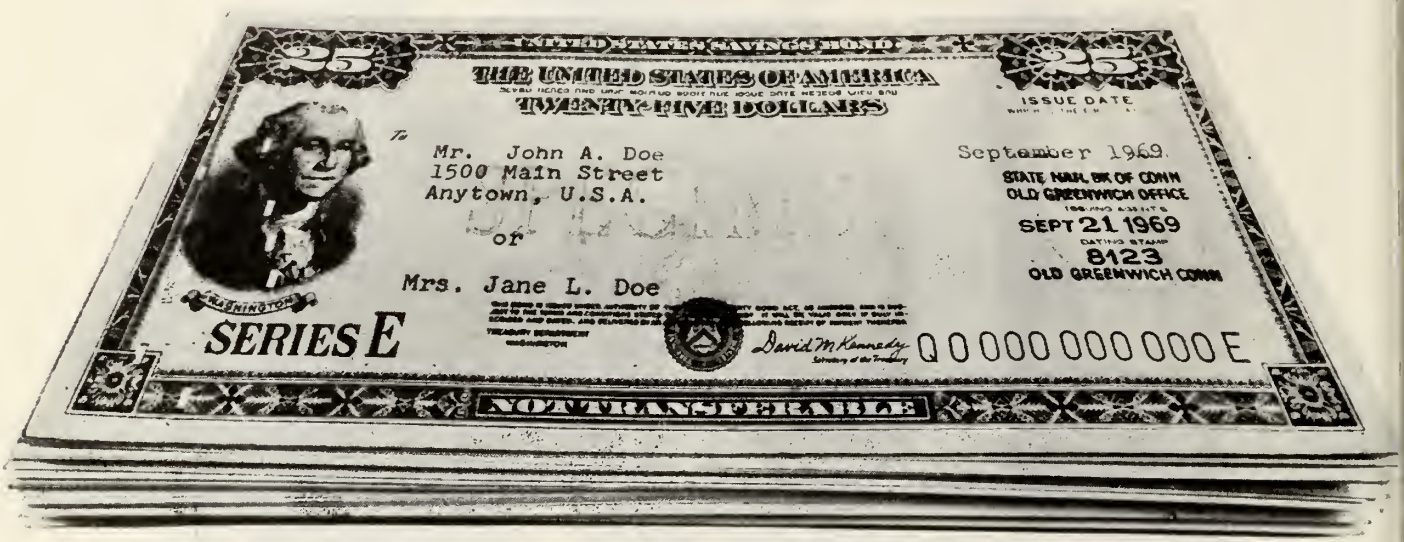
Available: In bottles of 100.

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Nutley, New Jersey 07110

Now all your U.S. Savings Bonds pay higher interest.



Now it's official.

Now one of the safest investments in the world brings you new and higher returns.

Now your U.S. Savings Bonds pay the highest interest in history: a full 5 per cent when held to maturity of 5 years and 10 months. (4% the first year; 5.20% thereafter to maturity). Previously, these bonds earned you only 4¼% if you held them for seven years.

The new interest began June 1, 1969. So all of the bonds you own, no matter when you bought them, have been collecting higher interest since that time.

Those bonds are still replaced if lost, stolen or burned.

You can still buy them through the payroll savings or a bond-a-month plan.

Regardless of your other investments, can you think of any easier, better, or safer way to build a nest egg for yourself?

It's nice to know that you are doing a little something for Uncle Sam, too. The $52 billion in U.S. Savings Bonds now outstanding in the hands of millions of Americans go a long way toward keeping your country financially strong.

There never was a better time to take stock in America.

There's a man at the place where you work who can start you on the Payroll Savings Plan right now.

UNITED STATES ★ SAVINGS BONDS ★

Bonds are safe. If lost, stolen, or destroyed, we replace them. When needed, they can be cashed at your bank. Tax may be deferred until redemption. And always remember, Bonds are a proud way to save.

Take stock in America.

With higher paying U.S. Savings Bonds.



Painful night leg cramps...

unwelcome bedfellow for any patient– including those with arthritis, diabetes or PVD

One thing patients can sleep without, particularly patients with chronic disease conditions such as arthritis, diabetes or PVD, is painful night leg cramps. Although seldom the presenting complaint, night leg cramps can tie your patients up in painful knots. Now, just one tablet of QUINAMM at bedtime can usually bring an end to shattered sleep and needless suffering. Your patients will sleep restfully—gratefully—with QUINAMM, specific therapy to prevent painful night leg cramps.

Prescribing Information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nacturnal and recumbency leg muscle cramps, including thase associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Precautions/Adverse Reactions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms af cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased ta ane tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

THE NATIONAL DRUG COMPANY
DIVISION OF RICHARDSON·MERRELL INC.
PHILADELPHIA, PENNSYLVANIA 19144

Quinamm™ Specific therapy for night leg cramps
(quinine sulfate 260 mg., aminophylline 195 mg.)



Treating atrophic vaginitis complicated by infection... **is as easy as AVC/Dienestrol**

Dienestrol helps restore estrogen-deficient vaginal mucosa.
It is the *particular* ingredient in AVC/Dienestrol that improves cell maturation counts[1,2] — helps stimulate the restoration of normal vaginal epithelium to resist infection.

Two recent studies reconfirm AVC/Dienestrol efficacy.[1,2] AVC/Dienestrol is proven effective against monilial, trichomonal, nonspecific bacterial vaginitis, and mixed infections.[1,2] AVC/Dienestrol combats infection, helps restore tissue resistance to reinfection.

So even in complex cases, the treatment can remain the same. Comprehensive. Effective. Easy as AVC/D.

Contraindications: Known sensitivity to sulfanamides; diagnosis or familial history of carcinoma of the genital tract or breasts; precarcinomatous lesions of the vagina or vulva; palpable uterine fibromyoma; mammary fibroadenoma; depressed liver function.

Precautions/Adverse Reactions: The usual precautions for topical and systemic sulfanamides should be observed because of the possibility of absorption. Burning, increased local discomfort, skin rash, urticaria or other manifestations of sulfanamide toxicity or sensitivity are reasons to discontinue treatment. The use of AVC/Dienestrol does not preclude the necessity for careful diagnostic measures to eliminate the possibility of neoplasia of the vulva or vagina. Manifestations of excessive estrogenic stimulation through dienestrol absorption may occur. These include uterine bleeding, breast tenderness, exacerbation of menstrual irregularity and provocation of serious bleeding in women sterilized because of endometriosis. Endometrial withdrawal bleeding may occur if use is suddenly discontinued.

Dosage: One applicatorful or one suppository intravaginally once or twice daily.

Supplied: 'AVC/Dienestrol Cream'—Four ounce tube *with* applicator. 'AVC' and 'AVC/Dienestrol Suppositories'—Box of 12 *with* applicator.

References: (1) Salerno, L. J.; Ortiz, G., and Turkel, V.: Vaginitis: A Diagnostic and Therapeutic Approach, Scientific Exhibit, presented at the 115th Annual A.M.A. Convention, Chicago, Illinois, June 1966. (2) Nugent, F. B., and Myers, J. E.: Pennsylvania Med. 69:44, 1966.

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DIVISION OF RICHARDSON MERRELL INC
PHILADELPHIA, PENNSYLVANIA 19144

AVC/Dienestrol

Cream (dienestrol .01%, sulfanilamide 15.0%, aminacrine hydrochloride 0.2%, allantain 2.0%)
Suppositories (dienestrol 0.70 mg., sulfanilamide 1.05 Gm., aminacrine hydrochloride 0.014 Gm., allantain 0.14 Gm.)

TRADEMARK. A V C AV-920A 7/69



Remember how great milk of magnesia tasted?

Almost as good as castor oil.
But now you can spare the taste buds and spoil the patient with a modern Dulcolax tablet or suppository.

And Dulcolax works so predictably that the time of bowel movement can often be predicted. Tablets taken at night usually produce a bowel movement the following morning. Suppositories generally work in 15 minutes to an hour.

For preoperative preparation, a combination of tablets at night and a suppository the next morning usually cleans the bowel thoroughly.

Dulcolax suppositories may be particularly helpful when straining should be avoided, as in postoperative care. Keep in mind, however, that the drug is contraindicated in the acute surgical abdomen.

Dulcolax®...it's predictable
bisacodyl

der license from Boehringer Ingelheim G.m.b.H. Geigy Pharmaceuticals, Division of Geigy Chemical Corporation, Ardsley, New York 10502 DU-7015

A once-popular treatment for back pains was to have the seventh son of a seventh son stand or walk on the patient's back.





The pain of earache was allegedly relieved by holding a hot roasted onion to the ear.

For headache, a sovereign remedy was to wear a snakeskin round one's head.



A realistic approach to pain relief



'Empirin'®

Compound with Codeine Phosphate gr. 1/2 No. 3

Each tablet contains:
Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.

keeps the promise of pain relief

'B.W. & Co.' narcotic products are Class "B", and as such are available on oral prescription, where State law permits.

BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe, N.Y.

IN ASTHMA
IN EMPHYSEMA



optional therapy

THE mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

MUDRANE—original formula
First choice

MUDRANE-2
When ephedrine is too exciting or is contraindicated

MUDRANE GG
During pregnancy or when K.I. is contraindicated or not tolerated

MUDRANE GG-2
A counterpart for Mudrane-2

MUDRANE GG ELIXIR
For pediatric use or where liquids are preferred

Clinical specimens available to physicians.

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

Manufacturers of Ethical Pharmaceuticals


CAUTION:
OVEREATING
MAY BE HAZARDOUS
TO YOUR HEALTH.
According to the Framingham Heart Study,
the obese face:
86% greater risk of angina pectoris,
82% greater risk of diabetes,
71% greater risk of coronary heart disease.*
Obesity may also aggravate osteoarthritis,
flat feet, intertriginous dermatitis, varicose
veins, and ventral or diaphragmatic hernias.[1-3]

If you are considering weight reduction, consider

Preludin®

phenmetrazine hydrochloride

Endurets®

prolonged-action tablets

Often effective

Controlled studies in a general patient population have shown that when Preludin is used with diet, the rate of weight loss exceeds that obtained by placebo and diet.

Long acting

Slow, even release of the active principle usually suppresses appetite continuously for about 12 hours.

Once-a-day dosage

One Endurets tablet after breakfast. It helps reduce weight and costs, conveniently.

For contraindications, warning, precautions, and adverse reactions, please see the full prescribing information.
It is summarized on this page.

Where there's no will there's a therapeutic way.

*Among persons 20% or more overweight as compared with median weight for persons of like height and sex.

1. Kannel, W.B., *et al.*: *Circulation* 35:734, 1967.
2. Thomas, H.E., Jr., *et al.*: *Med. Times* 95:1099, 1967.
3. Albrink, M.J., in: Beeson, P.B. & McDermott, W. (eds.): *Cecil-Loeb Textbook of Medicine*, ed. 12, Phila.: W.B. Saunders Co., 1967.

Preludin®
phenmetrazine hydrochloride

Preludin is indicated only as an anorexigenic agent in the treatment of obesity. It may be used in simple obesity and in obesity complicated by diabetes, moderate hypertension (see Precautions), or pregnancy (see Warning).

Contraindications: Severe coronary artery disease, hyperthyroidism, severe hypertension, nervous instability, and agitated prepsychotic states. Do not use with other CNS stimulants, including MAO inhibitors.

Warning: Do not use during the first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive.

Precautions: Use with caution in moderate hypertension and cardiac decompensation. Cases involving abuse of or dependence on phenmetrazine hydrochloride have been reported. In general, these cases were characterized by excessive consumption of the drug for its central stimulant effect, and have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations or delusions. Do not exceed recommended dosage.

Adverse Reactions: Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache.

Dosage: One 25 mg. tablet b.i.d. or t.i.d. Or one 75 mg. Endurets tablet a day, taken by mid-morning.

Availability: Pink, square, scored tablets of 25 mg. for b.i.d. or t.i.d. administration, in bottles of 100 and 1000.

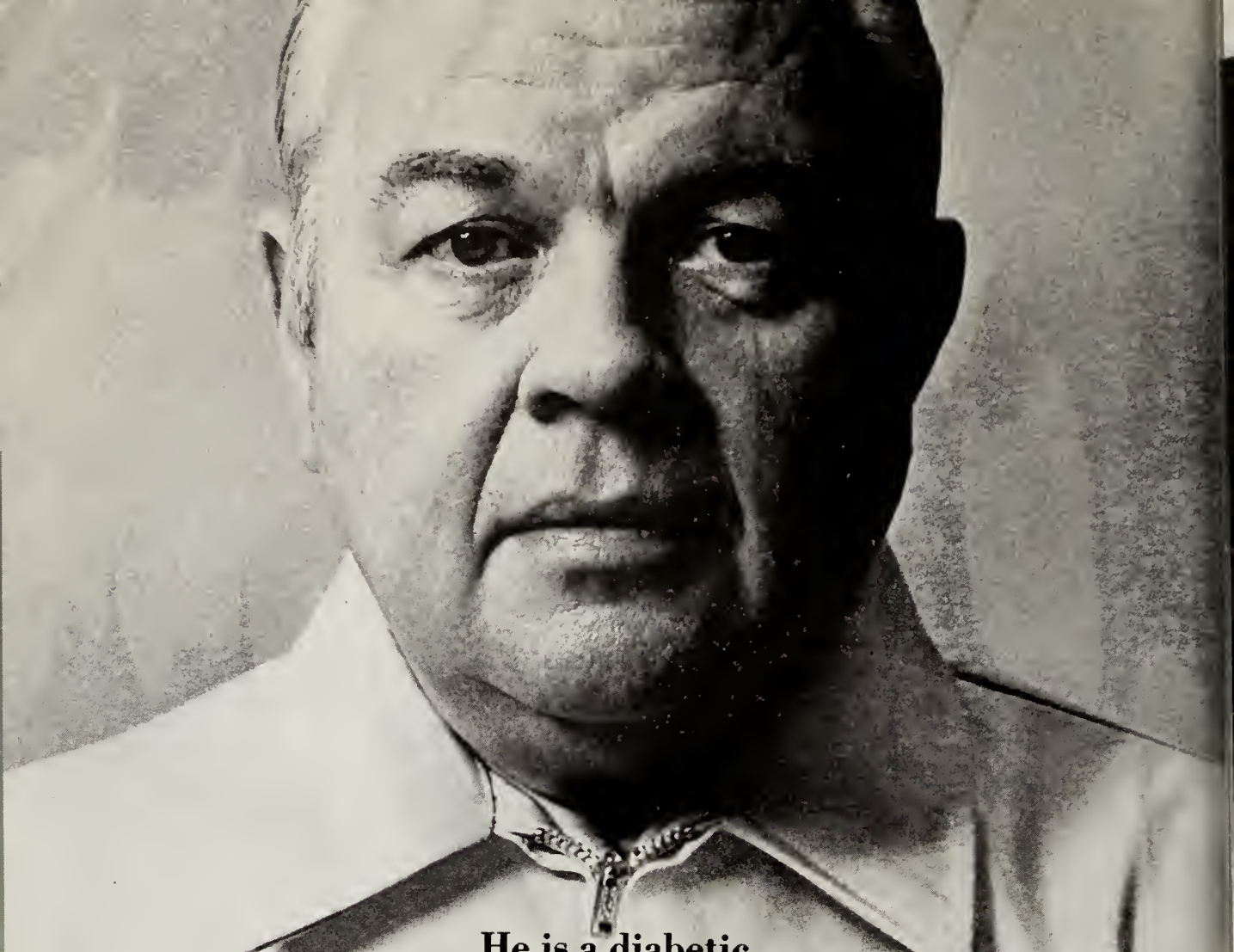
Pink, round Endurets® prolonged-action tablets of 75 mg. for once-a-day administration, in bottles of 100 and 1000.

(B)R3-46-560-B

For complete details, please see full prescribing information.

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Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York 10502



He is a diabetic.
He is middle-aged.
When he needs an antibiotic
he may be a candidate for

DECLOSTATIN® 300

Demethylchlortetracycline HCl 300 mg and Nystatin 500,000 units CAPSULE-SHAPED TABLETS Lederle

b.i.d.

To guard susceptible patients against intestinal monilial overgrowth during broad-spectrum therapy—the protection of nystatin is combined with demethylchlortetracycline in DECLOSTATIN.

For your susceptible candidates, prescribe DECLOSTATIN—the broad-spectrum therapy that prevents monilial overgrowth.

Effectiveness: Because its antibacterial component is DECLOMYCIN Demethylchlortetracycline, DECLOSTATIN should be equally or more effective therapeutically than other tetracyclines in infections caused by tetracycline-sensitive organisms. The antifungal component, Nystatin, protects against superinfection by antibiotic-resistant fungal overgrowth (particularly monilia) in the intestinal tract.

Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions bave been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracy-

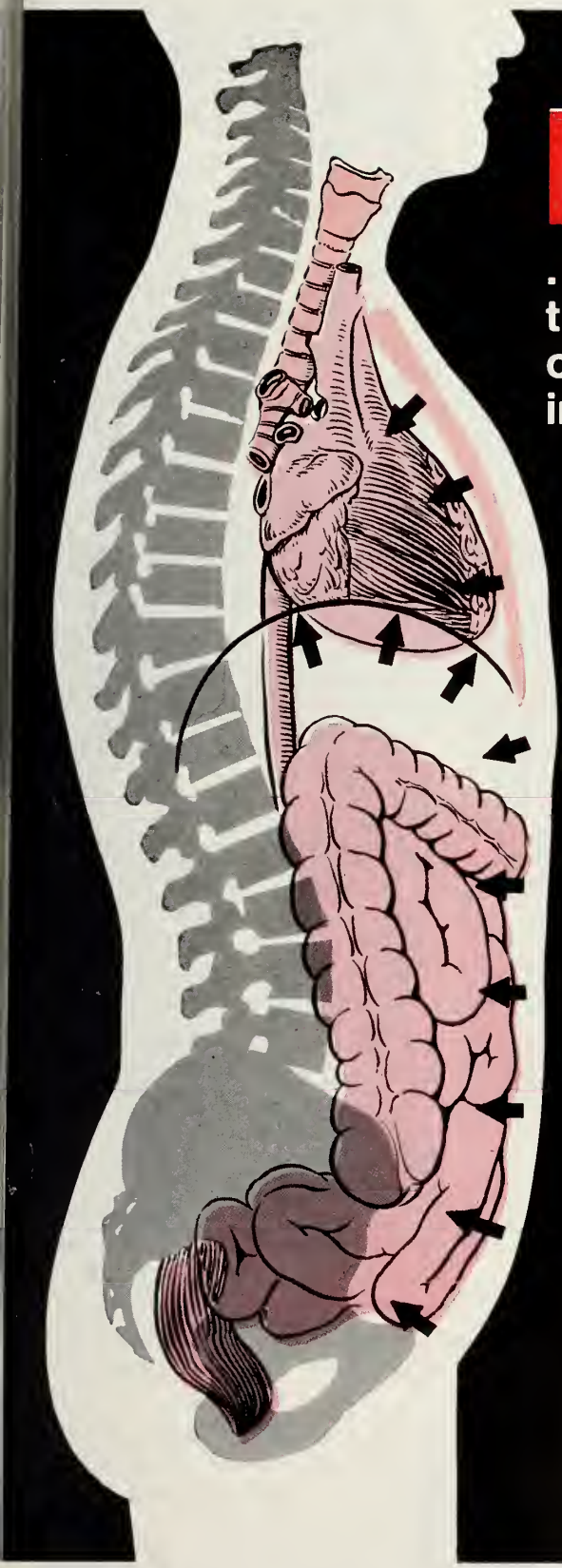
Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

Lederle

LEDERLE LABORATORIES



DOXIDAN®

...to reduce the hemodynamic "bind" of constipation in congestive heart failure

Constipation in the chronic heart failure patient carries with it the ever-present threat of acute cardiac decompensation while straining at stool. In the already weakened, distended heart, a sudden influx of blood on termination of the Valsalva maneuver is considered to be the mechanism of some of the deaths occurring in these cardiac patients during straining efforts.*



Doxidan is a gentle laxative designed to free your patient from the hemodynamic consequences of straining at stool. With a fecal softening agent to keep the stool soft and easy to evacuate, and with just enough peristaltic stimulation to urge the sluggish bowel, Doxidan reduces the hemodynamic "bind" of constipation.

Composition: Each capsule contains 50 mg. danthron N.F. and 60 mg. dioctyl calcium sulfosuccinate.

Dosage: Adults and children over 12—one or two capsules daily. Children 6 to 12—one capsule daily. Give at bedtime for two or three days or until bowel movements are normal.

Supplied: Bottles of 30, 100 (FSN 6505-074-3169) and 1000 (FSN 6505-890-1247).

*Best, C. H. and Taylor, N. B.: *The Physiological Basis of Medical Practice*, 7th edition, Williams and Wilkins, Baltimore, 1961, p. 480.

DOXIDAN®

HOECHST
PHARMACEUTICAL CO.
Div. American Hoechst Corp.
Cincinnati, Ohio 45229 U.S.A.

C-124



"All Interns are Alike"

It stands to reason. They all go through the same training; they all have to pass the same tests; they all have to measure up to the same standards; they all are underpaid, too. Therefore, all interns are alike.

That's utter nonsense, of course. But it's no more nonsensical than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more demanding. In fact, there are at least *nine specific differences* involving purity, potency and speed of tablet disintegration. These Bayer® standards result in significant product benefits including gentleness to the stomach, and product stability that enables Bayer tablets to *stay* strong and gentle until they are taken.

So next time you hear someone say that all aspirin tablets are alike, you can say, with confidence, that it just isn't so.

You might also say that all interns aren't alike, either.





Does the antianxiety agent you now prescribe...

...assure you of smooth, predictable action?

...have a 30-year safety record?

...minimize side effect surprises?

...consider your patient's pocketbook?

here's one that does!

No wonder thousands of physicians turn to the relaxing sedative effect of BUTISOL Sodium: to help the usually well-adjusted patient cope with temporary stress...or to relieve the anxiety associated with hypertension, coronary disorders, premenstrual tension, surgical procedures, functional GI disorders, and the strains of aging.

The prompt yet gentle daytime sedative action of BUTISOL Sodium is often all that's needed to help these patients meet their daily demands...as well as to provide them with a good night's sleep without resorting to hypnotic doses. And BUTISOL Sodium costs only about half as much as commonly prescribed sedative tranquilizers.*

Contraindications: Porphyria or sensitivity to barbiturates.
Precautions: Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression.
Adverse Reactions: Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
Warning: May be habit forming.
Usual Adult Dosage: For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg.
Available as: Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

*Based on surveys of average daily prescription costs.

Butisol SODIUM®
(SODIUM BUTABARBITAL)

McNEIL

McNeil Laboratories, Inc., Fort Washington, Pa. 19034

HIGHLAND HOSPITAL

ASHEVILLE, NORTH CAROLINA
Founded 1904
A DIVISION OF THE DEPARTMENT OF PSYCHIATRY OF DUKE UNIVERSITY
Accredited by the Joint Commission on Accreditation and Certified for Medicare

Complete facilities for evaluation and intensive treatment of psychiatric patients, including individual psychotherapy, group therapy, psychodrama, electro-convulsive therapy, Indoklon convulsive therapy, drugs, social service work with families, family therapy, and an extensive and well organized activities program, including occupational therapy, art therapy, music therapy, athletic activities and games, recreational activities and outings. The treatment program of each patient is carefully supervised in order that the therapeutic needs of each patient may be realized.

High school facilities for a limited number of appropriate patients are now available on grounds. The School Program is fully integrated into the hospital treatment program and is accredited through the Asheville School System.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

Brochures and information on financial arrangements available

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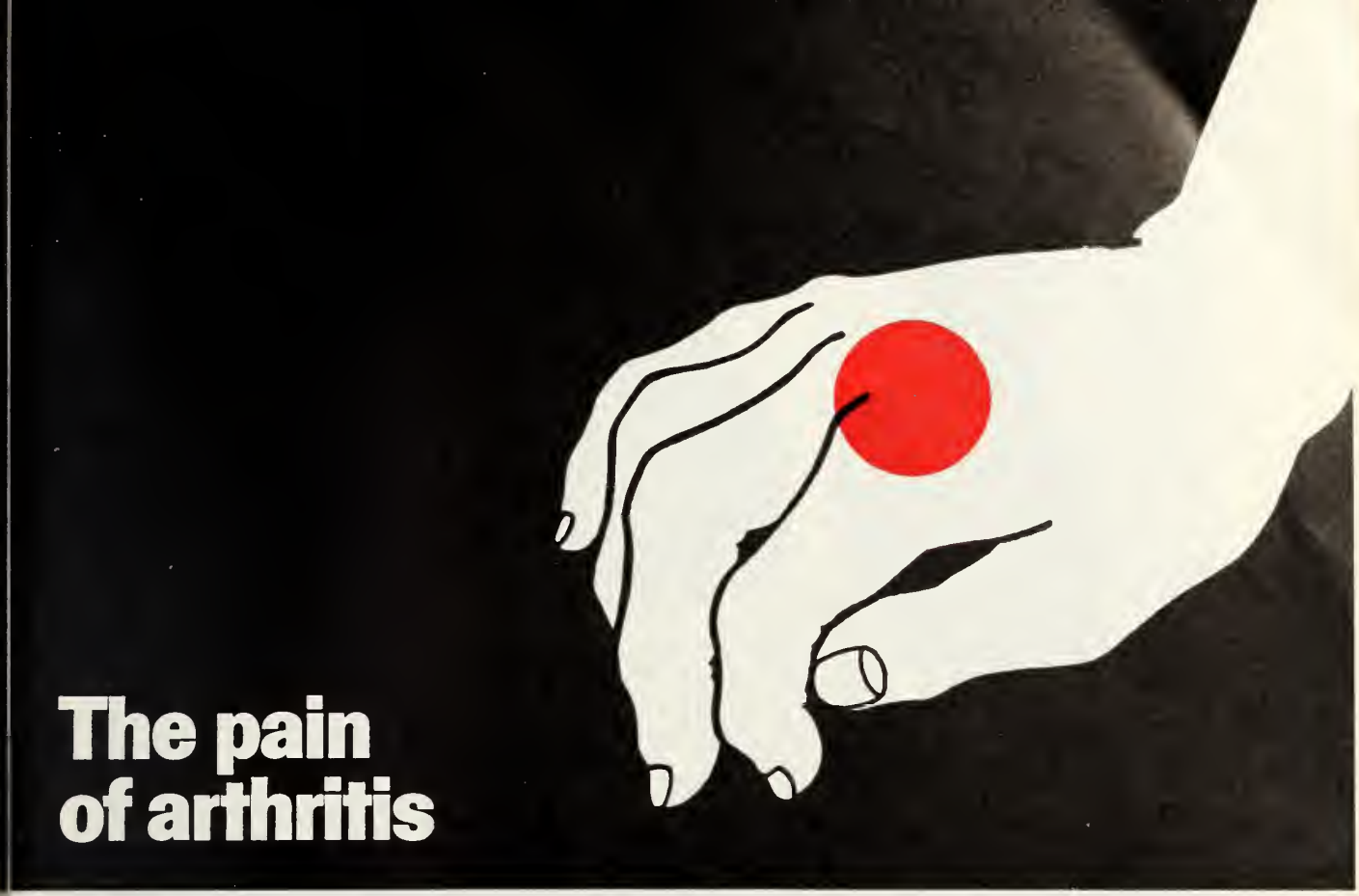
(2) Samuel N. Workman, M.D.
Chief of Clinical Services

(3) Charles W. Neville, Jr., M.D.
Assistant Professor of Psychiatry
and Medical Director

Area Code 704-254-3201

–The lowest priced tetracycline–nystatin combination available–





The pain of arthritis

relieved with MEASURIN® q. 8h. dosage

Double-strength Measurin timed-release aspirin offers a new kind of control for your arthritic patients. Each 10-grain tablet has over 6,000 microscopic reservoirs that release aspirin at a controlled rate—some right away and some later on. This means—fast relief, followed by long lasting relief. Throughout the day, Measurin gives your patients freedom from a 4-hour dosage schedule. Measurin can help your patients get a good night's sleep, uninterrupted by the need for an extra dose of aspirin. And, taken at bedtime, it also helps ease morning joint discomfort and stiffness.

For Professional Samples write:
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BREON

BREON LABORATORIES INC.
90 Park Avenue, New York, N.Y. 10016
Subsidiary of Sterling Drug Inc.

MEASURIN®
TIMED-RELEASE ASPIRIN

ECONOMICAL • EFFECTIVE • LONG LASTING PAIN RELIEF
Dosage: 2 tablets followed by 1 or 2 tablets every 8 hours as required, not to exceed 6 tablets in 24 hours. For maximum nighttime pain relief and to help relieve early morning stiffness, 2 tablets at bedtime.
Available: Bottles of 12, 36 and 60 tablets.


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LEPTOSPIROSIS IN MAN AND HIS BEST FRIEND

A Case Report

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In 1886 Adolph Weil described a severe febrile illness marked by jaundice, hepatosplenomegaly, renal and neurologic involvement.[1,2] Today the majority of cases of leptospirosis are anicteric and are less severe than Weil's disease. This case report illustrates classical Weil's disease in a young man and emphasizes the importance of epidemiology in clinical medicine.

W. C. R. Present Illness: This was the first Medical University Hospital admission for this 24-year-old white male whose present illness began on Sept. 20, 1969 (ten days prior to entering the MUH). Shortly after eating two hamburgers which had a peculiar taste, he had the onset of weakness, anorexia, nausea, vomiting, diarrhea, and fever. This symptom complex persisted, and he went to his family physician 6 days later with a temperature of 100° F., dehydration, and a BP of 60/0 mm Hg. He was admitted to the local hospital on Sept. 26 and was given intravenous fluids with subsequent clinical improvement. The following day he developed an intermittant macular rash and a sore throat without headache. On Aug. 28, scleral icterus was noted for the first time. The following day, although subjectively improved, his jaundice was deeper, and his BUN had risen from 18 mg/100 ml on admission to 103 mg. Total urinary output on this day was 190 ml. Laboratory studies reported on this day showed a creatinine value of 0.4 mg/100 ml and total bilirubin 9.7 mg with a direct fraction of 7.5 mg. On Aug. 30, his temperature rose to 105.6°, and there was further deterioration in renal function. At this time he was referred to the Medical Service at the Medical University Hospital.

He worked as a carpenter's assistant and had no recent exposure to stagnant water. He had a dog which had not been sick recently, and there were some field rats around his house. There was a history of an insect bite about two weeks prior to his onset of illness and the history of swimming in a creek near a pasture about two months prior to this illness.

Past history and family history were non-contributory.

Marital History: He was married, with one child; and the family is healthy.

Physical Examination: BP 120/80, pulse 88, temperature 99° F axillary.

He appeared as a young Caucasian male with obvious jaundice and lethargy. There was a fine macular erythematous rash over the entire body. Scleral icterus with conjunctival suffusion was present. The fundi showed no abnormalities. There was some old blood at the base of the teeth, and the gums bled easily. The tongue was dry, and the breath was foul smelling, but without the smell of acetone or ammonia. There was slight nuchal rigidity. The chest was clear to percussion and auscultation. The cardiac rhythm was regular, and no murmur was noted. The abdomen was soft, flat, and non-tender. The liver was tender and

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Table 1

	Aug. 30	Sept. 1	Sept. 2	Sept. 3	Sept. 4	Sept. 8
Creatinine	4.4 mg				1.2 mg	0.9 mg
Urea nitrogen	150 mg	101 mg	57 mg		22 mg	15 mg
Blood sugar	140 mg		104 mg			
Total proteins		6.4 gm				
albumin		2.9 gm				
globulin		3.5 gm				
Alkaline phosphatase					14 KAU	10.6 KAU
Total bilirubin	19.2 mg				3.9	
direct	19.0 mg				3.0	
delayed	0.2 mg				0.9	
Serum Na+	127	140 meq/1	136			137
K+	2.8	3.4	3.2			4.8
Cl+	89	102	95			99
		53 vol %				
CO_2	53 vol %	24 mm/1	57/25			61/27.5
SGOT	34			62	25	19
SGPT	52			44	40	32
LDH	770			1296	500	433

palpable five finger-breadths below the right costal margin, and the spleen was palpable one finger-breadth below the left costal margin. Bowel sounds were present but hypoactive. Rectal examination was within normal limits, but the stool specimen tested positive for blood. Except for lethargy, the neurological examination was within normal limits.

Laboratory data: On admission hemoglobin was 13.2 gm, WBC 14,700 with 78% polys, 6% lymphocytes, 16% bands, and VPC of 41 vols %. Platelets were adequate on peripheral smear. Urinalysis revealed clear, dark yellow urine with specific gravity 1.010,pH 5, no albumin, sugar or acetone. Urine sediment revealed 3-5 RBC's per HPF. Lumbar puncture done on admission revealed an opening pressure of 215 cm of water with a sugar value of 54 mg and protein of 105 mg. Cell count was 316 with 281 lymphocytes, 4 polys, and 21 RBC's. There were no bacteria seen on smear, and the culture was negative. VDRL was negative; blood ammonia was 23.5 mcg. Prothrombin time: Normal control 12.1 sec, patient's 15.4 sec, and activity 58%.

The table above summarizes most of his laboratory studies.

Other laboratory values included creatinine clearance of 5 ml/min on Sept. 1, which had risen to 60 ml/min at discharge. Fibrinogen 428 mg on Sept. 1. Protein electrophoresis—total 6.2 gm, albumin 1.9 gm, Alpha-1 0.4 gm, Alpha-2 0.9 gm, Beta 0.7 gm, and Gamma 2.3 gm. Leptospiral pools 1 & 2 were 1:32,000 and pools 3 & 4 were 1:8,000. A report of leptospiral agglutinins from the National Communicable Disease Center in Atlanta was 1:10,040 for *Leptospira canicola* on the patient's blood and on blood from the patient's dog.

Hospital course: Treatment was primarily supportive with intravenous therapy. Diuresis began on the day of admission; no antibiotics were given. His hospital course was one of gradual improvement, and he was discharged on Sept. 9 for follow-up by his family physician.

Discussion

This case report illustrates the classical syndrome of Weil's disease with acute febrile illness that is marked by jaundice, hepatosplenomegaly, renal failure, and aseptic meningitis. The Leptospira canicola agglutination titer of 1 to 10,040 leaves little doubt concerning the diagnosis. If the clinician ends his investigation at this time, he fails to see man as a part of his environment. The epidemiology of the leptospiroses has been shown to follow a characteristic pattern based, in part, upon the fact that they are diseases transmitted from animal to animal and from lower animals to humans. The chain of transmission, with rare exception, stops with human infections. The clinical manifestations of leptopirosis in domestic animals are quite variable and may be absent or latent. The animals may become carriers and urinary shedders after acute, mild, or more frequently, inapparent infection.[3] Water is contaminated by these

animal carriers and transmission to humans may occur through the unbroken skin if it is softened by long exposure to contaminated water. In this case the patient had a dog and was exposed to rats in his environment. The dog was virtually asymptomatic, but the specific titer to *leptospira canicola* was 1 to 10,040. This emphasizes the importance of an epidemiological study.

The frequency of human leptospirosis in the United States is not known, but 67 cases were reported to the National Communicable Disease Center in 1968.[4] The primary problems in the United States appear to be with the more common types, *Leptospira icterohaemorrhagiae*, *Leptospira canicola*, and *Leptospira pomona*. The disease certainly can no longer be considered rare or exotic and leptospiras are involved in many cases of aseptic meningitis and are not an infrequent cause of fever of unknown origin.[3] Despite the wide spectrum of clinical pathology, the majority of cases of leptospirosis display a recognizable and self limited picture. The onset of illness is generally abrupt, following an incubation period which ranges from 2 to 20 days, with an average of seven days. The ensuing clinical course is often, but by no means always, clearly biphasic. The first phase, lasting somewhat less than a week, is generally marked by chills, high fever, headache, and myalgia. Often conjunctival suffusion is observed in the early stage, and in more severe cases hepatic and renal involvement of variable extent are present. This initial phase has been termed systemic, and it is during these early days of illness that leptospira organisms are most commonly recovered from the blood and cerebrospinal fluid. The second phase of illness may vary in length up to 2 weeks, and it generally follows a period of several days during which the initial fever and symptoms subside. This second phase of illness generally corresponds to the time of increase of leptospiral serum antibodies and has been called the immune phase. Recovery is usually rapid and complete; both sequelae and relapses of illness are rare. The severity of illness seems to depend in part on the age and resistance of the patient and on the virulence of the infecting leptospiral strain.

Treatment is generally supportive. Antibiotics are generally considered of no benefit unless they can be given during the first 48 hours of the illness.[3,5]

The diagnosis should be suspected particularly in any case of febrile illness which begins with myalgia and conjunctival suffusion and which is characterized by meningeal, renal, or hepatic involvement. A history of environmental occupational contact with wild or domestic animals either directly or indirectly (e.g., contaminated water) is helpful. If the diagnosis of leptospirosis is entertained only when the classical syndrome of Weil's disease is present, then many cases will continue to go undiagnosed. A high index of suspicion with both adequate clinical and epidemiological studies is necessary to diagnose leptospiral infections.

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SOUTH CAROLINA MATERNAL MORTALITY REVIEW FOR 1967

WILLIAM W. KELLETT, III, M.D.
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Each year the South Carolina Medical Association appoints a Maternal Health Committee to review and evaluate the maternal deaths in South Carolina. The Committee is composed of physicians of various specialties such as pediatrics, general practice, anesthesiology, obstetrics, and pathology. As the deaths are reported, the Committee meets to review them. It is not the intent of this group to judge or reprimand the physician involved with the death and in each case the physician is invited to attend the meeting to hear his case discussed and evaluated.

When necessary, the Committee does make certain recommendations to the physician or suggests modes of improving situations that become apparent. Many times these suggestions are unheeded or untenable but the problems are apparent to the Committee.

A maternal death is a "death from any cause of a woman during pregnancy or within 90 days of the termination of pregnancy irrespective of the duration of the pregnancy at the time of termination or the method by which it is terminated." Maternal mortality is said to directly reflect the adequacy of maternity care, but unfortunately in South Carolina poverty, ignorance, and a vast rural population are also factors reflected in maternal mortality.

In 1967 there were 49,865 live births reported in South Carolina and 27 maternal deaths. In 1966 there were 36 maternal deaths in 50,653 births and in 1965 there were 41 deaths in 52,444 births. Table I lists age and legitimacy.

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Table 1

Race	No.	Legit.	Illegit.
Non-White	19	14	5
White	8	6	2

In 1967, the overall rate of deaths per 10,000 births was 5.44. This figure compares very favorably with 7.1 in 1966 and 7.8 in 1965. However, this local improvement did not help to improve our national ranking very much.

Table II shows the age and parity distribution.

Table 2

	Non-White	White
Age Range	13-47	18-35
Average Age	29.6	25.9
Primipara	4	2
Secund.	2	1
Multip.	6	0
Unknown	2	2

As these cases were reviewed, a primary cause of death was assigned to each case by the Committee.

Table 3

Primary Causes of Maternal Death

Hemorrhage	9
Sepsis	6
Heart Disease	4
Toxemia	3
CVA	2
Pulmonary Embolus	1
Acute Yellow Atrophy	1
Aspiration Anesthesia	1

The nine deaths attributed to hemorrhage are subdivided in Table IV.

Table 4

Causes of Death due to Hemorrhage

Ruptured Uterus	3
Ruptured Ectopic	2
Postpartum Hemorrhage	2
Abruptio-Afibrinogenemia	1
Criminal Abortion	1

There were three cases of death secondary to blood loss from a ruptured uterus. One involved a 14 year old gravida 2 who had severe postpartum hemorrhage after her first pregnancy, requiring 11 units of whole blood. With the second pregnancy she had a spontaneous, uneventful delivery, and bleeding ensued 30 minutes postpartum. She received 7 units of blood but expired 11 hours postpartum and was never really out of shock. This girl could have a clotting defect, but there was nothing by history to substantiate this. Another case involved a gravida 12 admitted in labor who delivered a stillborn infant and had immediate postpartum vaginal bleeding. Whole blood was delayed for some reason and patient expired three hours after delivery. No autopsy was performed. The third patient in this category had a ruptured uterus diagnosed at autopsy. She was admitted with seizure activity, vaginal bleeding, tetany of the uterus, and sickle cell disease. She expired undelivered and was anuric despite vigorous fluid therapy.

Both cases of ruptured ectopic pregnancy were found by autopsy. One involved a 20 year old primigravida who refused to be taken to the emergency room for 24 hours after symptoms began, and was DOA when she finally got there. There were five liters of blood in the abdomen at autopsy. The other patient also delayed in seeking help and was DOA. At autopsy a 9 cm crown-rump fetus and 2500 ml whole blood were found in the abdomen. The left fallopian tube was ruptured.

The one case of abruptio-placentae and afibrinogenemia had had no perinatal care. She received vigorous whole blood replacement and emergency cesarean section but sustained irreversible renal damage and died six days postpartum.

There were two cases of postpartum hemorrhage and death. One occurred one month postpartum and on admission the hemoglobin was 15%. Despite blood replacement, the patient expired. The other patient was a 44 year old multigravida and the details of this case are not available.

The last case of death due to hemorrhage was due to an attempt at criminal abortion. The patient was found dead at home with a intrauterine catheter that had separated the placenta from its uterine attachment.

Sepsis continues to be a leading cause of maternal mortality as is evident in Table V.

Table 5
Causes of Death Due to Sepsis

Amnionitis	2
Criminal Abortion	1
Sickle Cell Disease	1
Acute Pyelonephritis	1
Unknown (puerperal)	1

One patient who died of amnionitis and sepsis had ruptured membranes 54 hours prior to delivery. Postpartum she continued with fever, bleeding, and hyperfibrinogenemia, and despite vigorous treatment expired 24 hours postpartum. Another case involved premature rupture of membranes five days before seeking medical attention. This patient was moribund when seen in the clinic and died shortly after delivery of a stillborn infant.

There was only one case reported in which death was thought to be due to septic shock secondary to criminal abortion. This patient had a rapid demise after coming to the hospital.

The one case involving sickle cell disease and sepsis was a 26 year old gravida 2 admitted in a crisis with pneumonia. She was treated, transfused, and delivered but died with pneumonia four days post delivery.

Another death due to septic shock occurred in a patient admitted with acute pyelonephritis who delivered but became oliguric, went into shock, and expired three days postpartum.

A midwife delivered a 34 year old gravida 2 at home who had had no prenatal

care. She died four days later and information obtained from the family by the public health nurse indicated that sepsis probably was the cause of death.

Heart disease was thought to be responsible for four deaths. Rheumatic heart disease was incriminated in two cases. One case involved a 38 year old gravida 8 who delivered a normal infant in an emergency room and was discharged. One week later she was admitted in heart failure with a tender, swollen abdomen. She expired after having a seizure. An autopsy revealed multiple venous and arterial thromboemboli and mitral valve disease. The second patient with rheumatic heart disease died one day postpartum in heart failure in spite of meticulous prenatal care.

Ventricular fibrillation occurred during anesthesia to a 38 year old colored female. The delivery was complicated by a brow presentation that necessitated a version extraction maneuver. The patient was also anemic prior to delivery.

A 20 year old white female died six days after a routine delivery with ECG and chest film changes compatible with a congenital heart defect.

Toxemia in some form was reported on almost 50% of the cases reviewed.

Table 6

	Non-White	White
Eclampsia	3	0
Pre-eclampsia	3	2
HCVD	2	0
HCVD and Toxemia	2	0
No Toxemia	6	5
Unknown	5	1

Even though toxemia was present in many cases, it was thought to be the primary cause of death in only three cases.

There was one patient who died 107 days postpartum. Technically speaking this is not a maternal death. However, she was admitted having seizures, delivered a stillborn infant, and remained in a coma for 107 days until she died of pneumonia. The Committee agreed that this should be reported as a maternal death.

Another case involved a 42 year old gravida 5 who had severe hypertensive disease complicated by pre-eclampsia. She was admitted in a coma after seizures, delivered a stillborn and lived for four days postpartum.

The last patient in this group was a 34 year old multigravida who had hypertensive disease, renal disease, and no prenatal care. She came to the emergency room in a semicomatose state and died undelivered.

Cerebrovascular accident as the cause of death was well documented in a 24 year old gravida 2 who was admitted with a severe headache and blood in the spinal fluid. She became comatose and delivered a premature infant before she expired two days later.

The other case thought to be due to a CVA was a North Carolinian who was helping harvest a South Carolina crop and suddenly collapsed in the field. The 7-month fetus was never delivered.

Only one case was attributed to a pulmonary embolus in 1967. The patient was a resident of Michigan who was in transit through South Carolina. She experienced signs of an acute abdominal attack and a non-viable 5-month intra-abdominal pregnancy was found at exploration. The placenta was removed and whole blood was given. About 72 hours postoperative, she had sudden chest pain and dyspnea before death.

Acute yellow atrophy of the liver was confirmed by autopsy in a case admitted with jaundice and toxemia. The patient expired in shock with altered clotting mechanisms two days after normal delivery.

There was one death attributed to anesthesia. The patient was a 40 year old primigravida who expired on the table shortly after delivery.

Table VII shows the outcome of the pregnancies.

Table 7
Outcome of Pregnancy

Delivered Alive	11
Delivered Stillborn	8
Not Delivered	4
Aborted	4

Of the 19 patients who delivered, 18 were attended by a physician and one by a midwife.

In Table VIII the time of death in relation to labor is illustrated.

Table 8
Time of Death Relative to Labor

Postpartum	18
Antepartum	4
Intrapartum	1
Aborted	4

As would be expected, most of the deaths occurred on day 1 as shown in Table IX.

Table 9
Time of Postpartum Deaths

Day 1	7
2	2
3	2
4	3
5	0
6	1
7	0
8	1
9-15	0
15+	2

Inadequate prenatal care is still a major factor in maternal deaths. Table 10 shows that almost 40% of the patients had no care at all.

Table 10

Visits	Prenatal Care Non-White	White
0	8	2
1-2	1	0
3-5	3	1
6	2	2
Adequate	3	3
Unknown	2	0

A large number of deaths occurred in Charleston County although about half of the patients were referred in from surrounding counties.

As these cases are reviewed, an attempt is made to determine which of the deaths seemed preventable. In 1967, the Committee felt that 13 of the 27 deaths were preventable, 12 unpreventable and in two cases this factor could not be determined. If these 13 deaths had been avoided in 1967, the rate would have been 2.45 deaths per 10,000 and this would have been very close to the national average of 3.00 per 10,000.

Table 11
Deaths by County

Charleston	8
Fairfield	1
Richland	1
Sumter	1
Conway	1
Marion	1
Georgetown	1
Horry	1
Beaufort	2
Laurens	1
Chesterfield	2
Clarendon	1
Florence	2
Orangeburg	2
Marlboro	1
Greenville	1

It should be obvious from this report that some deaths in South Carolina are due to patient neglect, some are due to physician neglect, and some are unavoidable. In obstetrics, we all will admit that good prenatal care is mandatory to recognize and anticipate problems. Unfortunately, in South Carolina, many poor uneducated females living in rural areas become pregnant and have no reasonable means to obtain prenatal care. When these people have a problem, by the time they are moved to seek distant medical attention, the problem is indeed a grave one.

Many deliveries in South Carolina are performed by general practitioners and consultation with obstetricians should be readily available when a problem is encountered. These general practitioners working in small towns must also be encouraged to refer patients to medical centers if problems are anticipated that cannnot be handled by them or the facilities of their community.

The care of the South Carolina pregnant female must be upgraded. We as physicians can and must be instrumental in initiating the upgrading.

RENAL VEIN THROMBOSIS

J. ERNEST LATHEM, M.D.

Renal vein thrombosis is classified into two groups.[1,2] The primary type occurs in the newborn and is thought to be associated with birth trauma. The thrombosis in this process arises in the branches of the main renal vein. There is acute thrombosis with hematuria, shock and a renal mass. The prognosis is good if immediate nephrectomy is performed.

The second and far more common type renal vein thrombosis is secondary to infection and/or dehydration. The infarction generally is a slow and progressive process with the thrombus beginning in the radicle veins of the kidney and progressing in to the primary renal vein and occasionally in to the inferior vena cava and to the contralateral renal vein. The prognosis in this situation is much poorer than in the primary type thrombosis.[1,2] One of the major factors producing the poor prognostic situation in secondary renal vein thrombosis is the associated underlying causes, which are frequently life-threatening in themselves. The infection and/or dehydration are often severe. These must be treated before starting any surgical procedure.

Approximately 400 cases of renal vein thrombosis have been reported. [4,7-10] The majority are under two years of age.[1] A 90 per cent mortality rate exists in all cases reported.[3,11] Many were diagnosed at autopsy.[9,11] Some cases of spontaneous cure without surgery have been reported,[12] but only a clinical diagnosis was available. The proof of conservative management has yet to be substantiated in view of the overall high mortality.[3]

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Case Report

An 18 month old male child was admitted to the Emergency Room in a comatose state. There was a history of diarrhea starting five days previously. The family physician had been seen when the diarrhea began, and a 3+ proteinuria had been noticed and the white blood cell count was 19,300 per cu/mm. at that time. The patient continued to have intermittent diarrhea and was seen again three days later with persistent gastroenteritis. Hematuria developed the day before admission. On the morning of admission, the child had the following laboratory studies done at the referring hospital: BUN, 115 mg/100 ml. Total serum protein, 6.5 gms, chlorides, 150 mEq/l, sodium, 159 mEq/l, potassium, 3.2 mEq/l, CO_2, 9 mEq/l. The urinary output during the 24 hours before admission was collected and noted to be 275 ml. The urine contained 4+ protein, and there were 25-35 red blood cells per high powered field.

Upon admission to the hospital, the blood pressure was 120/50 mm/Hg. The temperature was 101°. The respiratory rate was 32 per minute. The pulse rate was 20 per minute. Body weight was 28 pounds. The chest and lung findings were compatible with an acute pneumonitis. There was a mass palpable in the right flank region. The extremities were noted to have ischemic changes in the distal phalanges of the middle, third and fourth fingers of the right hand.

A spinal tap was done. The pressure and spinal fluid examinations were normal. A catheter was inserted into the bladder, and 200 ml of dark-colored urine were obtained. The admitting diagnosis was: renal vein thrombosis, gangrenous toes, gangrenous fingers, generalized sepsis and pneumonia.

The urinary output the first 12 hours after admission was 215 ml. An ortho-iodo-hippuric acid renogram was done shortly after admission. This revealed a prolonged secretory and excretory phase bilaterally. There was some increased activity over the bladder. The left kidney had a slight slope in the excretory curve. The right kidney revealed no evidence of any excretory activity.

Blood cultures were obtained at the time of admission and colistimethate sodium (Coly-mycin) was started at the rate of 7 mg/kg body weight



Swelling and ecchymosis of the lower extremities secondary to vena caval obstruction. Ischemic gangrene can be seen in the distal phlanges of the right hand.



The infarcted kidney with the typical dark color can be seen. Thrombi from the inferior vena cava, iliac veins and left renal vein after removal.

per 24 hours, and this was combined with intravenous penicillin-G at the rate of 10 million units per 24 hours. Ten hours after admission, the blood pressure had risen to 150/110. Fluid administration during this period of time averaged 30 ml per hour.

Progressive ecchymosis, swelling and edema developed in the lower part of the abdomen and throughout the lower extremities. The upper extremities showed no evidence of venous obstruction but there were ischemic changes in the fingers. (Fig. 1)

The patient was heparinized with 50 mg of aqueous heparin and prepared for surgery 12 hours after admission. A right paramedian incision was used. Dark fluid was present in the abdominal cavity. The right colon was reflected medially, and the retroperitoneal space was entered. An atraumatic vascular clamp was placed across the vena cava just below the daphragm. The kidneys were then evaluated. The right kidney was enlarged to twice its normal size. It was a dark reddish-black color. The renal vein on the right side was completely occluded. The vena cava was also thrombosed from the level of the renal veins down throughout the iliac area.

Incisions were made in both iliac vessels, and large clots were removed from these areas. Another incision was made between the right and left renal veins. A clot was seen in the orifice of the left renal vein, and complete occlusion was present in the right renal vein. The thrombus was satisfactorily removed from the left renal vein, and adequate blood flow was re-established in this area. The vena cava was explored for clots to the diaphragm (where the occlusion clamp had been placed), and several small fragments were removed from this area. The incisions in the vena cava and iliac veins were repaired. A right nephrectomy was then performed. (Fig. 2)

Heparin in amounts adequate to keep the clotting time in range of 15-30 minutes was maintained for a six week period. Appropriate antibacterials were administered during the postoperative period. The BUN decreased to 5 mg five days after surgery. The electrolytes were also within normal limits at that time. Urinary excretion gradually improved.

The edema and swelling in the lower extremities decreased progressively and during the immediate ten day period following surgery, the right thigh decreased from 36 cm to 28 cm and the lft thigh decreased from 32 cm to 27.5 cm in circumference. The blood pressure was 150/110 immediately after surgery. After five days, the blood pressure recordings remained stable in a range of 100/70.

Progressive improvement continued and at the time of discharge, the BUN was 13 mg. Total serum protein was 8.6 gms. The electrolytes were within normal limits, and the bleeding time was 6 minutes, 20 seconds. A urine culture revealed no growth. The urinary pH was 6.0. Microscopic examination of the urine was negative, and there was no proteinuria.

The removed kidney weighed 61 grams. The external surface showed marked discoloration with moderate pelvic hemorrhage. The renal vein contained thrombi. The ureter was unremarkable. Histologic examination revealed multiple hemorrhagic infarcts throughout the right kidney and multiple thrombi of the renal veins. Multiple thrombi of the iliac veins and vena cava were also noted.

The patient has continued to make satisfactory progress, and there is no evidence of any nephrotic change or other dificulties one year after treatment.

Discussion

There have been approximately twenty cases reported in which renal vein thrombosis was associated with thrombosis of the inferior vena cava. There have been only three known survivors. [2,4,13-15] The typical history is that of a child under two years of age who develops gastroenteritis. There is frequently associated sepsis. The patient usually does not have supplementary intravenous fluids during the period of acute gastroenteritis. There is gradual decrease in urinary output, and dark colored urine is often associated. The BUN is often elevated. Frequently there is a systemic acidosis. Palpation of the abdomen will often reveal a mass in the region of the kidney.

An intravenous pyelogram will generally be nondiagnostic. A renal scan may indicate the functional status of the kidney(s). The renogram is an important diagnostic procedure.[16] One can determine vascular patterns, excretory renal function and also whether or not there is urinary excretion (by placing a crystal over the region of the bladder). The retrograde femoral anteriogram is one of the most accurate diagnostic procedures,[17] but is technically difficult in this age group.

The infection requires intravenous antibiotics in massive doses (after urine and blood cultures are obtained.) Supportive fluids, electrolytes and whole blood should be given as required by the clinical situation. Anticoagulation is recommended.[18] Careful attention to the platelet count is imperative in that depressed platelet levels secondary to the thrombotic process are not unusual. Surgery should begin as soon as the clinical situation will permit. There is danger of progression of the thrombotic process.

Surgical exploration should be through an abdominal incision. Upon entering the retroperitoneal area, an atraumatic vascular clamp should be placed as high as possible across the vena cava before the kidneys are evaluated. Once the extent of the thrombosis is determined, the procedure of choice will be evident. Nephrecomy should be done in unilateral cases. In bilateral vein thrombosis, thrombectomy from the renal veins and attempted washout with heparin and dextran solution is advisable in view of the reported response to conservative management in some of these kidneys.[12]

With optimal preoperative management and aggressive surgical attack, plus vigorous postoperative care, there is no reason why patients with renal vein thrombosis should not have a better prognosis. The fear of operation and difficulty with the vascular thrombotic process are overemphasized. These have encouraged procrastination, and the results have been dismal.

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50 YEARS



April 1920

The program for the Annual Meeting included a paper on "Carcinoma of the Male Breast" by Dr. George Benet. The virtues of Greenville as a place for the Annual Meeting were extoled.

SOUTH CAROLINA HEART ASSOCIATION
CARDIOVASCULAR CASE OF THE MONTH

LUTEMBACHER'S SYNDROME, AN UNUSUAL VARIATION

WILLIAM C. MALOY, M.D.
Associate in Medicine (Cardiology)
Medical University of S. C.
Charleston, South Carolina

B. G., a 36-year-old white male was admitted to the Medical University Hospital with a long history of rheumatic heart disease manifested by mitral stenosis and insufficiency, even though there was no history of rheumatic fever. He was first hospitalized in 1963 in North Carolina Memorial Hospital for evaluation of a possible lung abcess and was noted to have heart murmurs consistent with mitral stenosis and insufficiency. He also was felt to have pulmonary hypertension and pulmonary congestion. Cardiac catheterization was recommended; however, he declined and was discharged on digitalis therapy and prophylactic penicillin. He was hospitalized again in 1968 because of congestive heart failure and at that time was found for the first time to have atrial fibrillation. His last hospitalization prior to his admission to the Medical University Hospital was in November, 1969 for congestive heart failure and hemoptysis. He apparently has been symptomatic from his heart disease throughout most of his life and because of weakness and dyspnea on exertion has had little or no formal education. Of interest is the fact that he has had several episodes in the past of right upper lobe pneumonia treated with penicillin.

Past History & Review of Systems: He has had bilateral herniorrhaphies. He denies all allergies. He has had a cleft palate since birth. He has had no serious illnesses or symptoms referrable to other organ systems except the cardiovascular system.

Family History: He has a brother who has had a heart murmur since birth.

Physical Examination: He is a well-developed, well-nourished, white male who appeared moderately orthopneic but was alert and cooperative. He weighed 106 lbs. Respirations were 25 per minute. Blood pressure was 110/70 mm Hg. Temperature was 97°F. Pulse was 100 and irregular. Pupils were equal and reacted to light and accommodation. Funduscopic examination was essentially normal. There was a cleft of the hard palate. No cyanosis was noted. The neck was supple, without masses, and the neck veins were distended. There were no palpable nodes. Bilateral basilar rales were present in the lung fields and there was some dullness in the right base posteriorly. Examination of the heart revealed a very active precordium with a right and left ventricular lift as well as a left atrial lift. The pulmonic valve closure was palpable. The PMI was displaced to the left in the sixth intercostal space about 2 cm to the left of the midclavicular line. There was a Grade II/VI soft systolic blowing murmur heard best at the apex, radiating to the axilla. A loud opening snap was present followed by a Grade II/VI diastolic rumbling murmur. The second heart sound was accentuated. The liver was palpable about 4 cm below the right costal margin and did not pulsate. The spleen was not pal-

pable. There were no masses in the abdomen. Bowel sounds were normal. Extremities revealed no peripheral edema and a full range of motion. Pulses were full throughout and variable due to atrial fibrillation. Neurological examination was normal except for a speech defect secondary to a cleft palate.

Laboratory Data: Complete blood count was normal. Platelet count was 32,000. Sedimentation rate corrected was 4 mm per hour. Serum electrolytes were within normal limits Liver function tests were normal. Urine and sputum cultures, including cultures for TB, were negative. BUN was 19 mg 100/ml. Electrocardiogram revealed atrial fibrillation with a controlled ventricular rate and right ventricular hypertrophy. Chest x-ray films revealed right ventricular and left atrial enlargement suggestive of mitral valve disease. The right upper lung field revealed distended pulmonary veins throughout with a diffuse haziness in the right upper lobe. A lung scan demonstrated an increased flow throughout the right upper lung fields with a comparable decreased blood flow throughout the rest of the lungs.

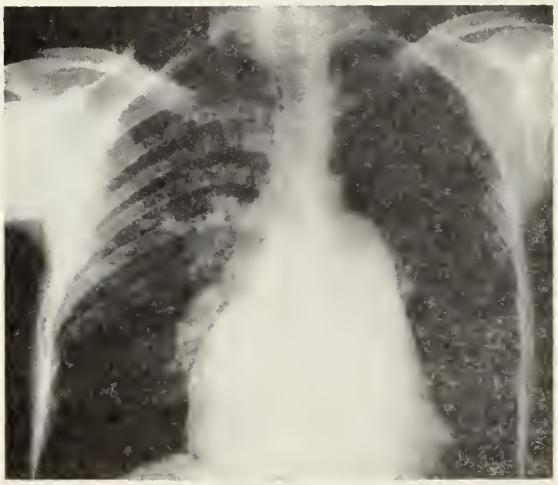


Figure 1. Chest x-ray films (P. A.). Note the enlarged heart, prominent pulmonary arteries and increased vascularity of the right upper lung field.

Hospital Course: The patient improved on a program of bed rest and a low sodium diet in addition to digitalis and diuretic therapy. After maximal improvement he underwent cardiac catheterization. The data are shown below. Normal values are within parentheses.

Cardiac Catheterization Data		
	O_2 Saturation (%)	Pressure (mm Hg)
Superior vena cava	91 (65-75)	
High right atrium	90.5 (70-75)	
Mid right atrium	83.5 (70-75)	8(2)
Low right atrium	81 (70-80)	
Inferior vena cava	65 (70-80)	
Right ventricle	79 (75)	65/08(20/0-5)
Pulmonary artery	85 (75)	64/25(20/5)
Left atrium (pulmonary wedge)		29(5-10)
Left ventricle		95/0-8(120/0-10)
Aorta	95 (98)	95/68(120/80)

The conclusions from cardiac catheterization were that this patient had mitral stenosis and regurgitation of a moderately severe degree. In addition, he had moderate pulmonary hypertension and an anomalous pulmonary vein which drained the right upper lobe and emptied into the superior vena cava or high right atrium. It was felt that he needed operative correction of his mitral valve disease, and redirection of his anomalous pulmonary vein. This was scheduled for the near future.

Discussion

Since Lutembacher[1] published the classical description of mitral stenosis with atrial septal defect in 1916 there have been many similar articles and case reports appearing in the literature. This is a relatively rare combination of lesions however, and as was pointed out by Nadas,[2] this is a much over-diagnosed syndrome since a flow tricuspid diastolic rumble is heard in many cases of atrial septal defect alone without associated mitral stenosis. The number of proven cases in the literature would probably be less than 150.[3] True Lutembacher's Syndrome may present itself clinically as either an atrial septal defect or mitral stenosis, depending on the severity of the dominant lesion. Lutembacher in his original article proposed that mitral stenosis was probably

of congenital origin and could be responsible for the patency of an atrial septal defect by preventing the closure of the foramen ovale. At present it is known that increased pressure in the left atrium is more apt to cause closure of a foramen ovale than to open it. Dressler[4] pointed out in 1930 that if mitral stenosis were in some way responsible for the production or maintenance of an atrial septal defect these two lesions should be expected to occur more frequently together than is commonly found. Firket stated in 1955 that an atrial septal defect could have a favorable effect on the hemodynamics associated with mitral stenosis. The left-to-right shunt would prevent overloading of the left atrium due to the stenotic mitral valve. The overflow of blood from the left atrium to the right atrium could be accommodated in the easily distensible right atrium and great veins. The classical symptoms of mitral stenosis such as pulmonary edema, hemoptysis, pulmonary congestion and orthopnea would be decreased or delayed until right ventricular hypertrophy developed. One unfavorable effect of an atrial septal defect associated with mitral stenosis is the low systemic output. Sambhi and Zimmerman[5] reviewed the pathological physiology of the Lutembacher's Syndrome in 1958 and concluded that it would be difficult to prove or imagine that mitral stenosis could have any beneficial effect on the course of an atrial septal defect. They concluded in summary that the combination of these lesions probably reduces the average span of life as compared to the effect of either alone. There are occasional reports in the literature, however, of patients with this syndrome who have led long and useful lives without undue symptomatology or complications.

This patient represents an unusual form of Lutembacher's Syndrome, since instead of an atrial septal defect he has an anomalous pulmonary vein which is draining the right upper lobe into the right atrium. The hemodynamics of this anomaly are similar however. The striking findings of a fluffy appearing infiltrate and prominent pulmonary vasculature in the right upper lung field (See Figure II) confirms



Figure 2. Lung scan (P. A.) using I-131 labeled macroaggregated human serum albumin. Note the increased blood flow in the right upper lung field which is comparable with the findings on chest x-ray film.

that the blood flow thorugh the lung fields has been preferentially shunted to the right upper lobe, presumably because of the decreased pressure in th right atrium as compared to the left. This particular anomaly associated wth mitral stenosis and causing this peculiar pathological physiology might be termed a "right upper lobe steal syndrome."

In summary, this is a 36-year-old white male patient who has rheumatic heart disease manifested by mitral stenosis and insufficiency. In addition, he has the unusual variant of an anomalous pulmonary vein draining the right upper lobe into the superior vena cava.

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THE SURGEON AND HIS CAP

WILLIAM H. PRIOLEAU, M.D.*

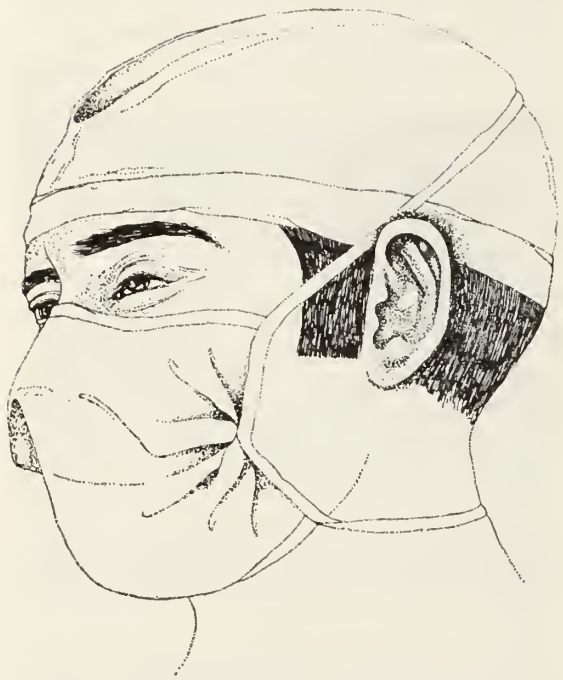


Figure I
Fashion Item

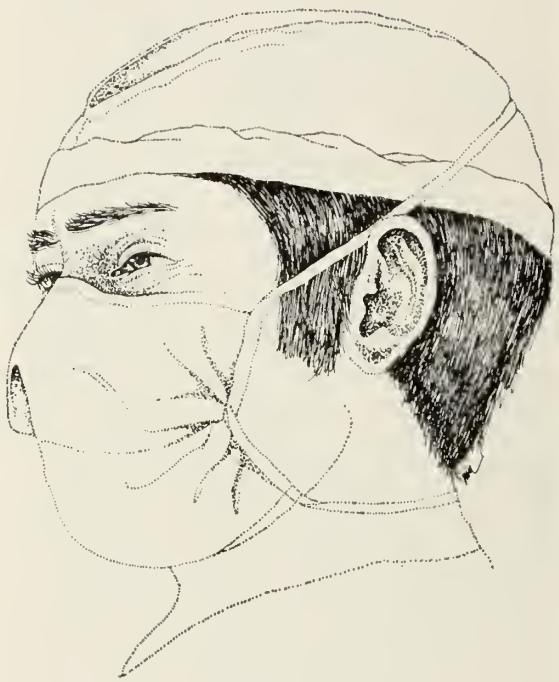


Figure II
Status Symbol

Subjecting the patient to the risk of infection from hair fall-out cannot be justified by fashion or a philosophy based on individual responsibility, permissiveness or seeking one's identity.

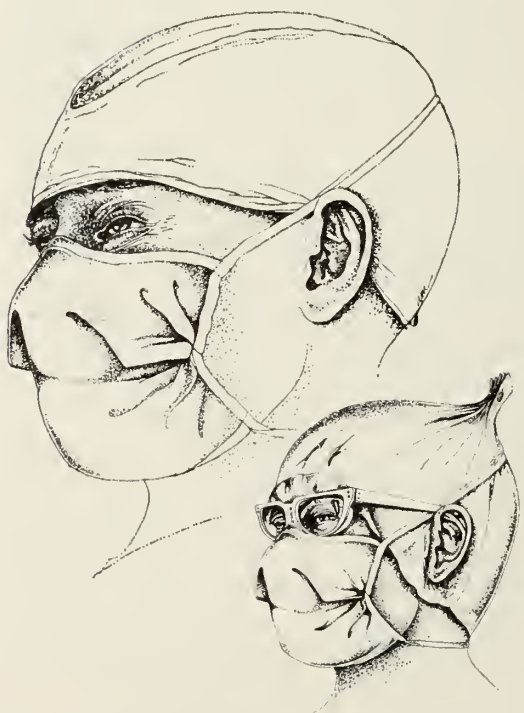
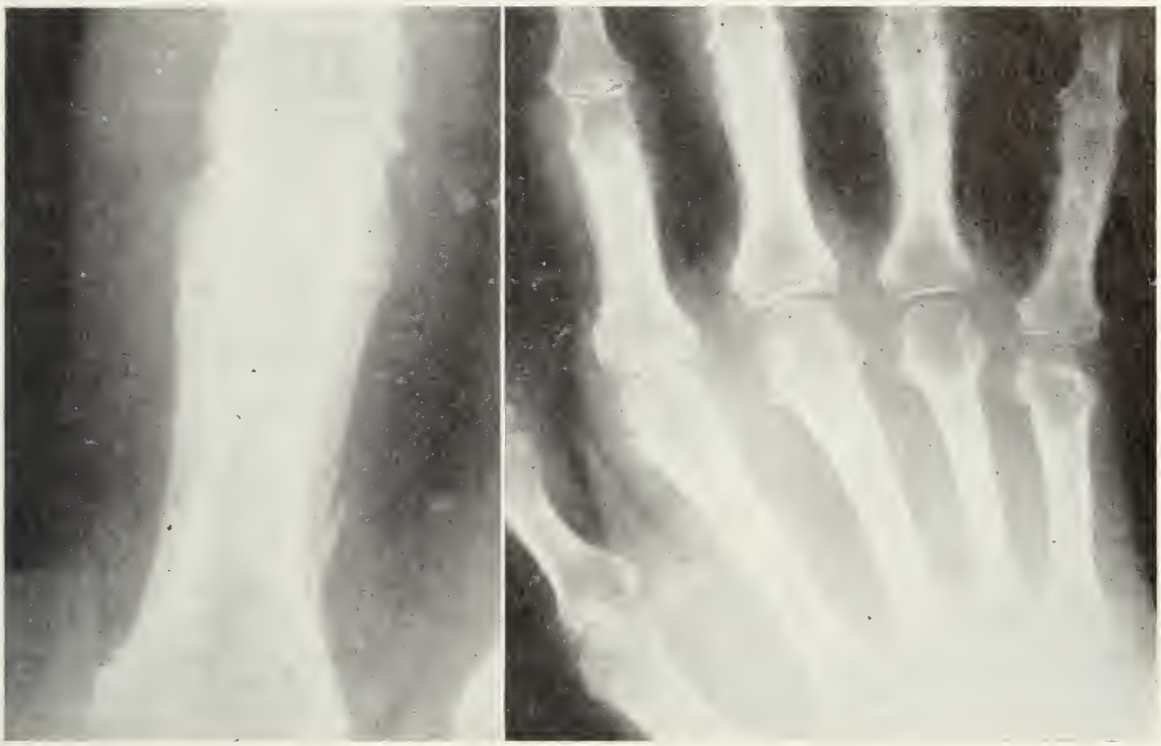


Figure III
Surgical Coverage. Insert: Ear brought out through tear in stretch cap.

*Roper Hospital and the Medical University of South Carolina. Drawings by Wayne Lyngen of the Medical University of South Carolina.

X-RAY FILMS OF THE MONTH

S. E. PUCKETTE, JR., M.D.
Charleston County Hospital



This AP film of the right hand plus a blown up view of one of the proximal phalanges was taken on a 67 year old colored female who six months previously had developed pain, swelling, tenderness and stiffness in the proximal interphalangeal and metacarpal phalangeal joints of both hands. Clinically, the picture was that of rheumatoid arthritis and the patient received a short course of steroid therapy without relief. After viewing the films, another x-ray examination was ordered.

* * *

Carcinoma of the lungs, which was subsequently demonstrated on the chest film, can present itself in multiple fashions. One of these is in the patient who complains of joint disease. The joint difficulties are due to hypertrophic pulmonary osteoarthropathy as shown here in the bones of the hand. The major radiological feature of hypertrophic pulmonary osteoarthropathy is a subperiosteal calcification. The radius, ulna, tibia and fibula, metacarpals and metatarsals are more frequently involved than the phalanges which are shown here. As no other condition in this age range is likely to cause periosteal calcification without injury to the underlying bone, one can be fairly certain of the diagnosis. This subperiosteal calcification is to be distinguished from a somewhat related condition known as clubbing. Clubbing consists of thickening of the soft tissues of the end of the fingers. While closely related and sometimes occurring together, clubbing usually follows chronic pulmonary disease from suppurative lesions such as bronchiectasis and lung abscess or congenital cardiovascular disease. Pulmonary osteoarthropathy occurs most often as a result of intrathoracic neoplasms, particularly bronchogenic carcinoma. Of interest is that the pain and discomfort with the pulmonary osteoarthropathy may recede properly after removal of the tumor.

President's Page

South Carolina, like most other states, is faced with changing patterns of medical needs and practices. This is exemplified in the home health care program, and in prenatal and maternal care programs; but probably is epitomized in hospital care.

What has happened in the past decade to create new problems and changing roles for physicians and nurses in hospital medical care? For one thing, we have experienced a need for recovery rooms and intensive care units as a result of a greater volume of major surgery and a greater number of severely ill patients. These units have made it mandatory to train personnel to monitor these patients. Registered nurses have been trained to move up into a position of responsibility and decision making, that a few years ago was considered to be within the realm of the physician. Aides and technicians have been trained to do many of the jobs done previously by the nurse.

Registered nurses have left the general ward to become specialists or clinicians in special areas, such as recovery rooms, cardiac care units, general intensive care units. On a general ward, this has created a need which has been met partially with aides, technicians, and special teams of nurses or technicians, such as intravenous teams and oxygen therapy teams.

As we look to the future and see the probable departmentalization of intensive care units, such as pediatric intensive, pulmonary intensive, surgical intensive; as we see the probable development of greater specialization of non professional aides in medical care—such as ambulatory teams; as we see the emergency rooms assume more responsibility for emergency type illnesses or accidents night and day; it is necessary that we "stop, look, and listen."

Your president has appointed a special committee to review this problem, and this committee has been working in this area for the past six months. The committee has met on four occasions with representatives of the S. C. Nurses' Association and has discussed in some depth the problems facing us, and how we might move to meet them. The above admonition has served us well, since on many occasions we have found by dialogue, that a problem viewed from the physician's point of view is completely different from the problem viewed from the nurse's point of view. By looking and listening, we have been able to understand and are moving toward solutions.

Let us all consider the changes that have gradually occurred in our own practices and in our own hospitals and be willing to seek new solutions for new problems.

James H. Young, M.D.

RETARDED CHILD

Today, at last, I truly warmed
Toward a little thing deformed.
How many years it took to see
There's love in what can never be.

Robert Quinn, M.D.

Editorials

The Annual Meeting

In this number of the *Journal* the program of the Annual Meeting at Myrtle Beach is outlined. A new arrangement for the scientific session has been made and the business sessions of the Association have been put in a different order. These changes are the result of some considerable dissatisfaction with the schedule of previous years. It is hoped that the new one will prove more agreeable to the membership.

The Annual Meetings have much to offer to all members in the way of business, pleasure, and instruction. The increasing number of doctors in attendance gives evidence of growing interest.

Reach to Recovery—A New Program in South Carolina

Women who suffer the trials and hazards of mastectomy for cancer must undergo a considerable psychological strain in adjusting to the loss of major physical and cosmetic characteristics. Emotional instability after surgical removal of the breast may be quite marked, and adjustment is not always rapid or easy.

Some 17 years ago the need for some organized assistance to the patient deprived of her breast was recognized by Mrs. Terese Lasser, herself a mastectomy patient, who set about establishing a program of aid and comfort to the numerous women who had undergone that disheartening experience. This effort has spread widely and accomplished much. Now sponsored by the South Carolina Division of the American Cancer Society, it is being implemented over the state to assist the estimated 600 women who will undergo the operation in the coming year.

Basically the program offers to provide, at the request of the surgeon, a volunteer visitor who has herself undergone the operation and can give to the new patient practical advice for physical rehabilitation, clothing, prostheses, and particularly, a matter-of-fact discussion of the problems involved, not only for the patient but also for the family.

Another phase of this program consists of lectures and demonstrations in nursing schools, medical schools and other groups to educate the rising practitioners in the care of the patient who has had radical mastectomy.

This total effort appears to be one that should be most valuable to physician and patient. It is controlled entirely by the physician and puts no strain on physician-patient relationship. Its implementation in the four larger medical centers of the state should lead to widespread use over all of South Carolina.

Medicaid Costs

The proper physician has always had concern for the costs of illness to the patient, and has done what he could to keep the burden light. Some practitioners have felt that costs were not their concern, and assuming perhaps a state of presumed affluence in the patient, have paid little attention to conducting diagnosis and treatment with a view to lessening the demand on the pocketbook. These conditions obtained long before Uncle Sam got into the medical act. The public was not unaware of the physicians part in modifying its bank account, and now the Government is concerned that its programs may be endangered by too lavish use of its funds.

In South Carolina Medicaid especially is suffering financial pains. When prescriptions are cheap or essentially free, it is easy for the physician to write them in considerable number, when one prescription for a larger amount of medication will cost the program many times

less than four or five prescriptions for the same drug. Injections multiply daily when oral remedies would suffice. Patients linger unnecessarily long in hospitals and nursing homes. Homes and boarding institutions cost us taxpayers far less than hospitals do, and home health services, often quite adequate, are the cheapest of all.

While cost is a secondary concern for Medicaid authorities, it may well determine how much or how good services can be. The control is largely in the hands of the physician, and it is logical and proper for him to have a care for an economical operation of a program which subsists on his tax money.

Abbreviated Minutes of Council

Columbia, South Carolina

Wednesday, February 18, 1970

The Council of the South Carolina Medical Association met at the Blue Cross-Blue Shield Headquarters on February 18, 1970, at 2:00 p.m. The meeting was called to order by Dr. Harold P. Hope, Chairman.

Dr. Robinson said the State Health Department will not be able to furnish private physicians with the rubella vaccine as Legislature rejected a re-quest for $100,000 for Rubella vaccine for the 1971 fiscal year. It was suggested that Mr. Meadors stress the necessity for promoting an immunization campaign by distributing pamphlets along with the SCMA Newsletter and that the County Medical Societies be urged to promote the Rubella vaccine.

Dr. Kilgore moved that SCMA not participate in a financial way in the campaign but that the Secretary write Dr. Robinson suggesting that the S. C. Electric and Gas Company, and similar firms, be requested to include a small notice on their existing billboards. Passed.

Dr. C. Tucker Weston, Chairman, gave a most comprehensive report on the business meeting of the Medical Districts Committee of the S. C. Regional Medical Program. Dr. Weston explained the role of Regional Advisory Group in relation to the Medical Districts Committee in sub-regional program planning and the relationship of these committees to the Health Planning Groups and Programs. Dr. Weston stated that the Executive Committee of the RAG recommended and RAG approved, subject to the approval of Council, that the Coordinator and his staff proceed with the activation of the Medical Districts Committee and sub-regional or district committees, with the necessary organizational arrangements of the staff as would be needed to permit liaison or cooperation by these committees with the Health Advisory Planning Groups or committees currently being organized in the ten State Sub-Regions for Planning, established by Executive Order of the Governor on March 12, 1969. It is recognized that Medical Districts of SCMA do not coincide with Planning Districts as established by the Governor but until a change in the boundaries of the Medical Districts can be made, the deviations are not thought to be significant and the SCRMP Committee, it is believed, can adjust without too much difficulty.

Dr. Weston moved that as there are no physician Medical District representatives from Planning District No. 10 (Beaufort, Colleton, Hampton and Jasper) that Dr. Parker Jones and Dr. Harrison Peeples meet with Council as representatives from that District. Passed.

Dr. Hope moved that insofar as the present State Planning District Sub-regional Organization and the make-up of the county groupings are by Executive Order of the Governor and could be changed by a new Governor, it is believed that the Council might well wait until some legislative action is taken, but it is suggested that Council give due consideration to establishing the Medical Districts in accordance with the Planinng Districts. Passed.

Dr. Perry moved that Dr. James R. Barham be appointed to Planning District No. 5. Passed.

Dr. Holmes moved that Dr. Waddy G. Baroody be appointed to Planning District No. 7. Passed.

Dr. Weston moved that Dr. William C. McLain, Jr., and Dr. Vince Moseley be appointed to the RMP for the low country Regional Planning Commission. Passed.

Dr. Weston moved that Council communicate their interest and support of the Plan to the Planning District Directors or Commission Chairman, and to the Directors of the three Comprehensive Health Planning Councils now organized in three of the ten Planning Districts. Passed.

Dr. Weston emphasized the need to pick the right men for these jobs. No federal or state money can be expended without the approval of the local groups.

Dr. Hope moved that Dr. Perry appoint a committee to study the redistricting of the Medical Districts and be prepared to submit a report to Council after legislative action is taken. Passed.

Dr. Perry appointed Dr. J. Harvey Atwill, Chairman, Dr. William A. Klauber and Dr. D. Strother Pope as a committee to study redistricting.

Mr. S. J. Ulmer of the State Board of Health, reviewed suggestions on what doctors could do for Comprehensive Health Planning Groups. Mr. Ulmer stated that the Office of Comprehensive Health Planning is recommending the elimination of the three-day stay in a hospital before admittance to a

nursing home and mentioned several seminars which are to be held over the State.

Dr. Miller moved that Council request the Governor to recognize the Chairmen of the Medical Districts Committees of RAG of SCRMP to serve as liaison representatives between local Medical Districts Committees and the State Health Planning Council. Passed.

Dr. Perry moved that Council approve SCRMP Committees to the Directors of State Planning Districts as competent committees to serve in an advisory capacity for health planning programs to the District Council and to CHP 314-A Health Planning agencies organized within the districts. Passed.

Dr. Hope stated that Council should act as liaison between SCMA and Blue Cross-Blue Shield and introduced Mr. Jack Henley, Blue Shield Professional Relations Representative. Mr. Henley stated that four men are available to any physicians or group of physicians who have complaints about claims or who do not understand anything about the plan. If any physician feels that his profile is incorrect, any of these four men will be glad to consult with the physician at any time.

Dr. Joseph P. Cain, Chairman of the Insurance Committee of SCMA, appeared before Council and urged more members to participate in the program. Under 400 members are now enrolled. A life insurance program is now offered if 400 members will participate and term life insurance up to $20,000 without underwriting may be obtained. Dr. Cain then introduced Mr. John Cappelman of Charleston, who explained that the rates for the life insurance would be set according to age groups and may not be increased. At any time, a physician may convert the insurance to any type desired. If a physician desires more than $20,000 coverage, he will have to file a regular application. In order to properly present this insurance plan, Dr. J. Harvey Atwill moved that Mr. Meadors be authorized to issue a card to the proper agents stating that the holder thereof is authorized to present a SCMA-sponsored insurance program and that Council would appreciate any courtesy shown holder. Passed.

Dr. Stokes suggested that a statement regarding the program be included in the Newsletter.

Dr. J. Harvey Atwill moved that the Insurance Program be approved. Passed.

Dr. Jameson introduced Mr. Gene Porter who explained the schedules used by Blue Cross and Blue Shield—Usual and Customary Schedule and the Uniform Fee System. Usual and customary schedule allows a physician to increase charges by notifying Blue Shield to change his profile. The Uniform Fee System would have to be negotiated annually.

Dr. Hope recommended that if there is any misunderstanding between Blue Shield and a physician, that Blue Shield get in touch with the respective Councilor first and the Councilor will try to straighten the matter out.

Mr. Meadors, Executive Secertary, went over the proposed amendments to the Medical Practice Act. In this respect, he stated that a public hearing would be held on Bill H. 1449 on Wednesday, February 25, at 3:00 p.m. in the Senate Conference Room. All interested members are urged to be present.

Dr. Perry moved that Council go on record as being oposed to Bills H. 2227, H. 2228, H. 2229, H. 2230, H. 2231 and H. 2232 and that the Newsletter contain such opposition and the reason therefor. Passed.

Dr. Gilland reported on the Medicaid Drug Program. Dr. Gilland stated that the Committee had two problems—one doctor had given one patient 334 prescriptions and 32 more are suspected of abuse of the program. The Committee asks Council what to do about this situation.

Dr. Miller recommended that the problems be referred to the committee appointed to work with the Governor on abuse in the Medicaid program. Dr. Kilgore seconded. A report that a few physicians are disbursing drugs themselves and billing Medicaid was received as information.

Dr. Parker reported briefly on a lengthy written report of the AMA Committee on Planning and Development and urged that the report be read in its entirety by all SCMA members as it is, in his opinion, very important. Mr. Meadors was requested to set up a telephone conference between the Trustees, President, President-Elect, Executive Secretary, and delegates between the State Meeting and th National Meeting.

Dr. Waring reported on SAMA.

Dr. Hawk moved that Council issue the same invitation to SAMA as was issued last year; i.e. attending the Annual Meeting at Myrtle Beach. Dr. Parker seconded. It was urged that if any doctors know any of the students from their respective areas to be especially cordial to them at the annual meeting. It would also be a good idea for the County Medical Societies to invite students from their respective districts to attend. It was noted also that a student would be qualified to testify before a reference committee.

Dr. Waring reported that the Special Heart Supplement of the Journal is late due to difficulties with the printer. A new printer will cost $2,000 to $3,000 more. Dr. Waring then recommended Dr. R. Buckland Thomas of the S. C. State Hospital as a prospect for the new editor. Dr. Perry moved that Dr. Thomas be offered the job. Passed.

Dr. Kilgore moved that Dr. Waring and Mr. Meadors be empowered to negotiate the best contract possible with the printer of their choice. Passed.

Dr. Jameson moved that the President's Party be paid for by SCMA rather than by the President personally, and that the party consist of a reception only. A committee including Mr. Meadors, the President and Chairman of Council will decide on the guest list. Passed.

D. Strother Pope, M.D., Secretary



Serving more than 600,000 South Carolinians with a variety of programs for prepayment of the costs of health care, we pay more dollars on hospital, doctor, and nursing home claims in South Carolina . . . . . *more than the combined payments of such benefits by the 15 commercial insurance companies with the largest health insurance business in this state.**

*Source: Sixty-First Annual Report of The Department of Insurance of South Carolina.

Blue Cross®–Blue Shield®
OF SOUTH CAROLINA

THE RUBELLA IMMUNIZATION CAMPAIGN

DONALD H. ROBINSON, M.D.

Rubella immunization campaigns in several South Carolina counties have been unsuccessful in reaching pre-school children.

Most school-age youngsters up to ten years old are getting their shot from their private physician or at school, but few parents are taking their pre-schoolers to special clinics.

For example, in Clarendon County only ninety-two (three per cent of the estimated pre-school population over one year old) received rubella vaccine during a one-day campaign. In Georgetown County the number of pre-schoolers immunized represents 11 per cent of the target population.

Of the first five counties to conduct campaigns, Beaufort is the leader, having inoculated 4,061 students (97 per cent) and 1,340 pre-schoolers (43 per cent).

Judging from these results and from reports of immunizations given, it appears that none of the future campaigns will be successful without more emphasis by private physicians who must give as many immunizations as possible in private offices.

During the last six months of 1969, S. C. private physicians reported giving only 3,500 rubella shots.

The question of spread of rubella vaccine virus from vaccinated children to their pregnant mothers has been raised by a number of practitioners. The fear that fetal damage might result from virus introduced by this route is a real consideration and has stimulated a number of studies. The purpose of these studies has been to investigate the possibility of transmission of vaccine virus from a recently vaccinated individual to a non-immune contact. If such transmission cannot be shown, there should be no danger to pregnant mothers of recently vaccinated children.

Despite the finding of vaccine virus in the pharynges of a large proportion of vaccinees, not a single incidence of spread of this virus has been shown in the more than 1,500 contacts studied.

For this reason the U. S. Public Health Service Advisory Committee on Immunization Practices considers that there is no significant risk of spread, and therefore, that there is no contraindication to vaccinating children of expectant mothers.

Meeting

The 10th International Cancer Congress is scheduled for May 22-29 in Houston, Texas. For more information write to P. O. Box 20465, Astrodome Station, Houston, Texas 77025.

The Annual Meeting of the S. C. Public Health Association will be held on May 5 in the Municipal Auditorium, Charleston, in conjunction with the Annual Meeting of the Southern Branch, APHA, which will be May 6, 7, 8, 1970.

ERRATUM

In the December 1969 Supplement entitled "Proceedings of the National Workshop on Exercise" in figure 2 on page 28 there is an error in the regression equation. The equation should read $VO_2 = 3.26\ (min) + 6.14$.

News

Winners of the 1969 state contest for the Association of American Physicians and Surgeons are first place, Stanley Rampey of Piedmont, and tie award for second place, Linda Allen of Greenville and Sharon Strickland of Greenville.

DEATHS

Dr. James Bruce White

Dr. James Bruce White, 67, died February 17, 1970 after several days of illness.

A native of Atlanta, Ga., Dr. White came to Walhalla from Toccoa, Ga. some three years ago.

Dr. William M. Corbett

Dr. William M. Corbett, Columbia surgeon, died February 17, 1970 at his home.

Dr. Corbett was a native of Millen, Georgia.

He attended Emory University and received his Medical degree from the University of Georgia, School of Medicine. He interned at the University of Wisconsin Hospital and served his surgical residency at the Roper Hospital in Charleston.

When he came to Columbia to practice, he was associated with the late Dr. Roger Doughty.

He was a fellow in the American College of Surgeons and a diplomate of the American Board of Surgery.

Book Reviews



Todd-Sanford Clinical Diagnosis by Laboratory Methods by Israel Davidson and J. B. Henry, W. B. Saunders Co., Pa. pp 1308. $24.00.

For more than 60 years these editions on laboratory medicine have kept the physician abreast of the accepted laboratory methods in the diagnosis of disease states. Beginning with the first edition in 1908 by Dr. James C. Todd of this widely used volume one can trace the development of the marvels of modern day American medicine. The new 14th edition has been thoroughly revised and updated. It describes and evaluates in detail the large number and broad range of diagnostic laboratory tests now available to the physician. The latest accepted advances in laboratory diagnosis from enzymology to atomic absorption spectrophotometry are discussed in a lucid straightforward manner. The authors give expert guidance to the busy practicing physician in the use of hundreds of laboratory tests from the collection of the specimen to the interpretation of the final report.

In discussing each test the various authors stress the importance of the recognition and the control of factors such as temperature, pH, time of collection and preservation of the specimen as well as accuracy in test performance. The authors also discuss, once the final results have been obtained, the necessity to interpret the answers in the cold light of statistics. How the normal is to be distinguished from the abnormal and how variations in findings can help in the differential diagnosis of diseases in which lab findings may be similar.

The major sections on hematology, microbiology and clinical chemistry have been expanded in this edition and new chapters have been added on blood groups, coagulation and hemostasis. The expanded material in clinical chemistry reflects the enormous and rapid advances occurring in that field. The reader will be disappointed if he is looking for an in-depth discussion of various diseases written as a treatise on hematological, metabolic, or other disorders. However, it does accomplish its purpose in a superb manner which is to correlate lab procedures now available and laboratory findings with the various human diseases and disorders.

Albert Cannon, M.D.

Crisis Fleeting edited by James H. Stone. Superintendent of Documents, Government Printing Office, Washington, D. C. $3.75. 423 pp.

This book departs from the usual tone of this series since it consists largely of diaries and reports of medical personnel on the scene in India and Burma in World War II. These accounts are given pretty much as written, with some discreet omission of names, and with very meticulous editing. The profusion of names and the sometimes trivial entries make reading sometimes a little tedious, but nevertheless these documents give an interesting picture of the medical man's problems and solutions and some view of the several campaigns involved.

This work includes no really formal reporting. The interesting stories would appeal especially to members of the military medicine establishment, and to any one concerned with the history of medicine in the Armed Forces.

J. I. W.



ONE HUNDRED AND TWENTY-SECOND ANNUAL MEETING
SOUTH CAROLINA MEDICAL ASSOCIATION
MYRTLE BEACH, MAY 11, 12, 13, 1970

HOUSE OF DELEGATES
WILLIAM L. PERRY, M.D., PRESIDING
ORDER OF BUSINESS
MONDAY, May 11

9:30 A.M. Call to Order
Invocation
Report of Credentials Committee
Opening Remarks by the President
Introduction of President-Elect
Announcement of Reference Committees
Presentation of Resolutions and Recommendations

10:30 A.M. Introduction of Officers and Guests of Woman's Auxiliary
REPORTS OF OFFICERS
- The President
- The President-Elect
- The Executive Secretary
- The Secretary
- The Treasurer
- The Editor of the Journal
- The Chairman of Council
- The Delegates to AMA

Reports of Committees:

(The reports of the Committees will have been published in the Journal and will not be read before the House. Any supplementary remarks by the Chairmen will be heard at this time.)

11:00 A.M. (SPECIAL ORDER) The Annual Meeting of the Corporation, The Blue Shield Corporation Election of Directors

The terms of the following expire this year:

Mr. Adair Crawley
Dr. Charles J. Lemmon, Jr.
Dr. Malcolm L. Marion
Mr. A. P. Nisbet
Mr. Raymond Pridgen

Report of State Board of Medical Examiners
Report of the Executive Committee of the State Board of Health
Unfinished Business
New Business

3:00 P.M. Meeting of Reference Committees

(All members of the Association are invited to appear before the Committees considering matters in which they are interested. Meeting places will be posted and announced.)

WEDNESDAY, MAY 13

9:30 A.M. Call to Order
Report of Memorial Committee
Reports of the Reference Committees

11:30 A.M. Annual Elections

Officers

President-Elect
Vice President
Secretary
Treasurer

Delegate to the A.M.A. (2-year term):

The term of Dr. Thomas Parker expires December 31, 1970

Alternate Delegate to the A.M.A. (2-year term):

The term of Dr. Harrison Peeples expires December 31, 1970.

Councillors (3-year terms):

Second District—The term of Dr. Waitus O. Tanner expires. (1967)
Fifth District—The term of Dr. John N. Gaston expires. (1967)
Eighth District—The term of Dr. J. Harvey Atwill, Jr., expires. (1967)

Members of the Mediation Committee (3-year terms):

Second District—The term of Dr. R. G. Latimer expires. (1964)
Fifth District—The term of Dr. Max A. Culp expires. (1967)
Eighth District—The term of Dr. John W. Rheney, Jr., expires. (1967)

Member of Benevolence Fund Committee (3-year term):

The term of Dr. V. Wells Brabham, Jr. expires

Members of State Board of Medical Examiners (4-year terms):

Fourth Congressional District—The term of Dr. Charles N. Wyatt expires

Member At Large—The term of Dr. William O. Whetsell expires

Executive Committee of State Board of Health (7-year terms):

The terms of the following expire:

Dr. W. Wyman King
Dr. John B. Martin
Dr. W. R. Wallace
Dr. Keitt H. Smith
Dr. R. W. Hanckel
Dr. O. B. Mayer
Dr. J. Howard Stokes

Hospital Advisory Council to State Board of Health

The term of Dr. Ralph P. Baker expires

Selection of Place for 1973 Annual Meeting

Sine Die Adjournment.

SOUTH CAROLINA MEDICAL ASSOCIATION ANNUAL MEETING—MAY 12, 1970

SCIENTIFIC PROGRAM

MAIN PROGRAM IN BALLROOM

9:00 A.M.	Robert Greenblatt, M.D., Professor & Chairman Department of Endocrinology Medical College of Georgia, Augusta, Ga. "Tall Girls and Short Men and Other Interesting Endocrine Phenomena".
10:00 A.M.	George Harrell, M.D., Dean & Director Hershey Medical Center, The Pennsylvania State University, Hershey, Pa. "Education for Family Practice"
11:00 A.M.	Harold Cross, M.D., HempdenHighlands, Maine. "Using Problem-Oriented Medical Records to Improve Patient Care and Education of The Physician".
12:00	E. Kenneth Aycock, M.D., S. C. State Health Officer, Columbia, S. C. "Comprehensive Health Planning in South Carolina"
12:30-2:00	LUNCH
2:00 P.M.	Harriett Pinner, M.D., Division of Health Services S. C. State Board of Health, Columbia, S. C. "Nursing Homes—Care in Transition".
2:30 P.M.	Judson Graves Randolph, M.D. Professor of Surgery George Washington University, Washington, D. C. "Cardiac and Thoracic Surgical Problems in Children"
3:10 P.M.	Milton Weinberg, M.D., Clinical Associate Professor of Surgery, University of Illinois School of Medicine "Intensive Care of Children Undergoing Major Surgery".
3:50 P.M.	Benton D. King, M.D., Professor & Chairman Department of Anesthesiology, State University of New York, Brooklyn, N. Y. "Respiratory Support in Chest Trauma".

4:30 P.M.	Panel Discussion: "Management of The Severely Traumatized Child". Doctors Randolph, Weinberg and King. Moderator: Bernard Ferrara, M.D. Charleston, S. C.
5:00	ADJOURNMENT
10:30 A.M. and 3:00 P.M.	Concomitant showings of two excellent films: (Place to be announced) "The Beginning of Life", photographed by Lennart Nilsson. Bench Mark Films, Inc. 30 minutes. Color Documents the growth of the human embryo inside the womb and the birth of the new individual. Some photographs recently published in Life Magazine.
11:00 A.M. and 3:30 P.M.	"A Storm—A Strife". Produced by AMA Department of Medicine & Religion. 28 minutes. Color. A story about a family needing counseling by both a physician and a clergyman.

COMMITTEE ON SCIENTIFIC PROGRAM



Walter Bonner, M.D.
Chairman

Dr. J. K. Owens, Jr., Bennettsville
Dr. James S. Garner, Jr., Mullins
Dr. Dana C. Mitchell Jr,, Columbia
Dr. M. Gordon Howle, Greenville
Dr. Joseph F. Flowers, Walterboro
Dr. George R. Dawson, Jr., Florence



PROTEIN CONTENT / 7 oz. Serving*

Bean with Bacon	6.8	Green Pea with Ham (Frozen)	7.6
Beef	8.0	Hot Dog Bean	8.4
Chicken Broth	5.5	Pepper Pot	6.1
Chicken 'N Dumplings	5.8	Split Pea with Ham	10.2
Chili Beef	6.2	Vegetable Beef	5.0
Green Pea	6.9	Vegetable with Beef (Frozen)	5.4

When protein is the focal point in your patients' special diets, Campbell's Soups can be a convenient supplementary source of that essential nutrient.

* From "Nutritive Composition of Campbell's Products" which gives values of important nutritive constituents of all Campbell's Products. For your copy, write to Campbell Soup Company, Dept. 365, Camden, New Jersey 08101.



There's a soup for almost every patient and diet ...for every meal and, it's made by Campbell

Pro-Banthine® Helps...

propantheline bromide

...REVEAL the ulcer

...HEAL the ulcer

The efficiency of Pro-Banthine—its favorable balance of therapeutic and secondary actions—has been thoroughly tested and observed. This quality has been demonstrated surgically, roentgenographically, cinegastroscopically and, above all, clinically.

When physicians needed to relax the restless duodenum for the recently refined technic of hypotonic duodenography they logically turned to Pro-Banthine.

For years Pro-Banthine has been the most widely used anticholinergic medication for calming the gastrointestinal tract—for suppressing secretion, prolonging the action of antacids and providing the proper environment for healing peptic ulcers.

These established therapeutic actions make Pro-Banthine particularly useful in:

- peptic ulcer
- gastritis
- diverticulitis
- irritable colon
- biliary dyskinesia
- functional hypermotility

We wish to thank Drs. Marcia K. Bilbao, Louis H. Frische, Josef Rösch and Charles T. Dotter for this exceptionally graphic example of hypotonic duodenography.

Contraindications: Glaucoma, severe cardiac disease.

Precautions: Since varying degrees of urinary hesitancy may occur in elderly men with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug. Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

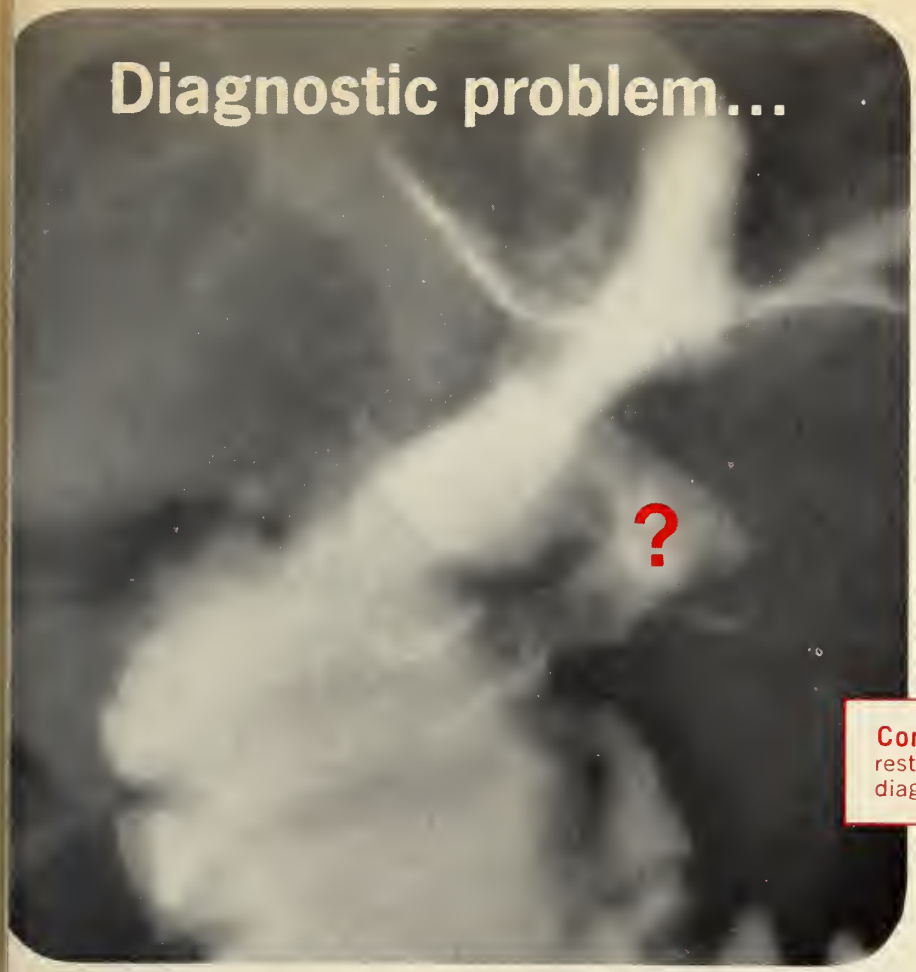
Side Effects: The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

Dosage: The maximal dosage tolerated without excessive side effects is usually the most effective. For most adult patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two 15-mg. tablets four to six times daily may be required. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

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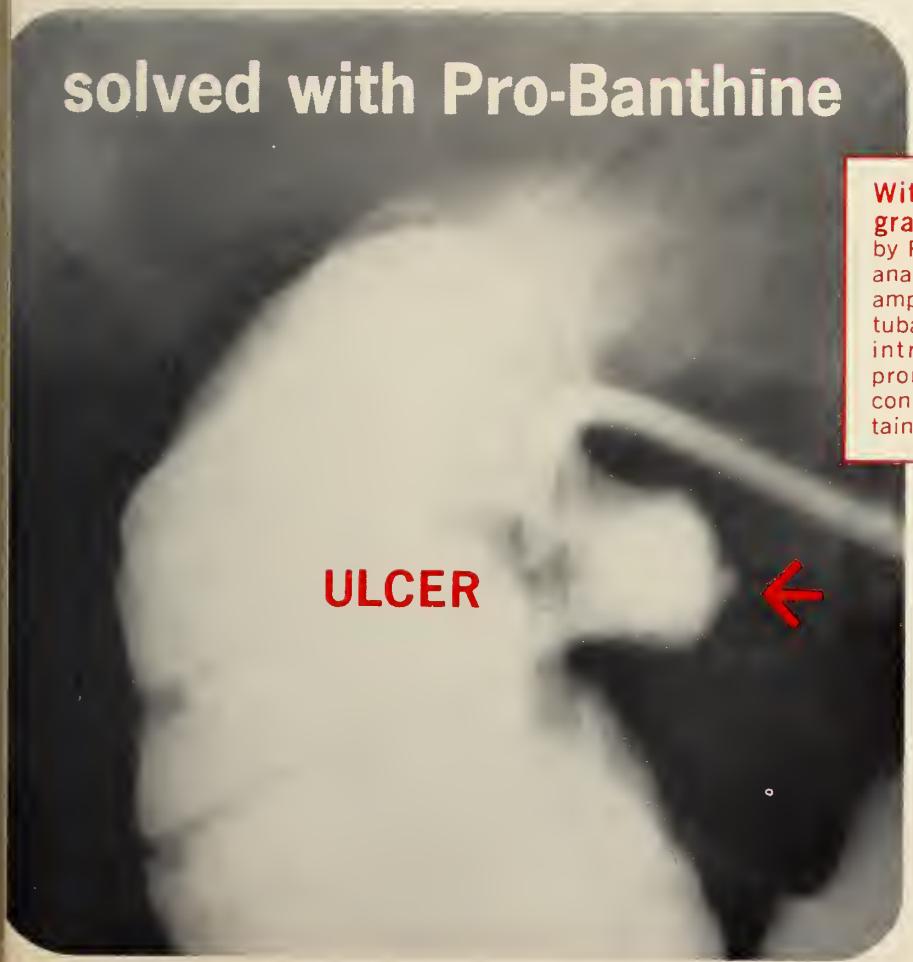
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Diagnostic problem...



Conventional x-rays of the restless duodenum are often diagnostically indefinite.

solved with Pro-Banthine



With hypotonic duodenography duodenal calm induced by Pro-Banthine permits clear anatomic appraisal. In this example the duodenum was intubated. Pro-Banthine, 60 mg. intramuscularly, produced prompt aperistalsis. Double contrast visualization was obtained with barium and air.



Nose clear as a whistle

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Dimetapp Extentabs® does an outstanding job of helping to clear up the stuffiness, drip and congestion of colds and upper respiratory allergies and infections. Each Extentab keeps working up to 12 hours. And for most patients drowsiness or overstimulation is unlikely. Try Dimetapp. It clearly works.

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UP TO 12 HOURS CLEAR BREATHING ON ONE TABLET

Indications: Dimetapp is indicated for symptomatic relief of the allergic manifestations of respiratory illnesses, such as the common cold and bronchial asthma, seasonal allergies, sinusitis, rhinitis, conjunctivitis, and otitis.
Contraindications: Hypersensitivity to antihistamines. Not recommended for use during pregnancy.
Precautions: Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.
Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.
Dosage: 1 Extentab morning and evening.
Supplied: Bottles of 100 and 500.

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SPEAKERS ON THE SCIENTIFIC PROGRAM

George T. Harrell, M.D.

Dr. Harrell received his M.D. degree from Duke University in 1936. He held appointments at Duke University and Bowman-Gray School of Medicine, and from 1954 to 1964 served as dean of the College of Medicine at the University of Florida. At present he is dean of the College of Medicine and director, The Milton S. Hershey Medical Center of the Pennsylvania State University and is dean emeritus of the College of Medicine at the University of Florida. Dr. Harrell is a member of many medical organizations and author of more than 250 scientific papers.

Benton D. King, M.D.

Dr. King is presently professor and chairman of the department of anesthesiology at State University of New York, Downstate Medical Center, Brooklyn. Before his present appointment, Dr. King served as professor and chairman of the department of anesthesiology at the School of Medicine in Buffalo. A graduate of Haverford College, he received his M.D. degree from the University of Pennsylvania School of Medicine and served his residency at Presbyterian Hospital in Philadelphia. He is a member of many medical organizations and a frequent contributor to the scientific literature in his field of medicine.

E. Kenneth Aycock, M.D.

Dr. Aycock received his M.D. degree from the Medical University of South Carolina in 1954 and a degree of master of public health from Harvard University in 1964. He served his residency at the Children's Hospital in Los Angeles and the Medical University Hospital, Charleston. Dr. Aycock was in private practice as a specialist in pediatrics in Columbia from 1957-1963. He has served as chief of the pediatrics departments of the Baptist, Columbia and Providence Hospitals in Columbia and is a diplomate of the American Academy of Pediatrics He has served as assistant director of the Maternal and Child Health Division of the State Board of Health and as director of the Charleston County Health Department. In 1967 Dr. Aycock became State Health officer for South Carolina. Dr. Aycock is a member of many medical organizations.

Harriett E. Pinner, M.D.

Dr. Pinner, director of the Division of Health Services of the S. C. State Board of Health, received her M.D. degree from the Medical University of South Carolina. She was in the general practice of medicine in partnership with her husband in Peak, S. C. for 18 years. She also served as physician to the Lowman Home, White Rock, S. C., as clinician for the Prenatal Clinic at Chapin and as physician for the Carolinas-Virginia Nuclear Plant at Parr, S. C. Dr. Pinner is a member of many medical organizations.

Milton Weinberg, Jr., M.D.

Dr. Weinberg received his M.D. degree from Duke University. He served his internship at Church Home and Hospital, Baltimore, Duke and Roper Hospitals, and his residency at Roper Hospital. Dr. Weinberg's hospital appointments include Cook County Hospital and Presbyterian-St Luke's Hospital, both in Chicago. He has held an academic appointment at the University of Illinois School of Medicine as clinical associate professor of surgery since 1964 and a professorship of thoracic surgery at Cook County Graduate School of Medicine, also from 1964 to the present. He is a member of many medical organizations.

Robert B. Greenblatt, M.D.

Dr. Greenblatt holds the degrees of B.A., M.D., C. M. from McGill University, Montreal, and has been associated with the Medical College of Georgia since 1935. At one time he served as assistant professor of pathology and gynecology, but since 1946, he has held the chair in endocrinology. Dr. Greenblatt is author of many scientific publications. He is also recipient of many awards and holds honorary memberships in many organizations. He is a diplomate of the American Board of Obstetrics and Gynecology, is an associate member of the Royal Society of Medicine and is a consultant to the Council on Drugs of the American Medical Association. Dr. Greenblatt is consultant to the Office of the Surgeon General of the United States Army, U. S. Air Force and to the Veterans Administration. He is on the editorial boards of several publications.

Judson Graves Randolph, M.D.

Dr. Randolph received his M.D. degree from Vanderbilt University School of Medicine. He served his residency at Vanderbilt University, Children's Hospital in Boston, Massachusetts General Hospital. Dr Randolph was a diplomate of the American Board of Surgery in 1959 and a diplomate of the Board of Thoracic Surgery in 1962. His present appointments include professor of surgery, George Washington University; surgeon-in-chief, Children's Hospital of the District of Columbia, and consulting surgeon at National Naval Medical Center, Walter Reed Army Medical Center and National Institutes of Health. Dr. Randolph holds membership in many medical organizations.

Harold D. Cross, M.D.

Dr. Cross was graduated from Yale Medical School in 1957. He served his internship at Eastern Maine General Hospital in Bangor and has been in general practice since 1958 in Hampden, Maine.



GERALD D. DORMAN, M.D.

BANQUET SPEAKER

Gerald D. Dorman, M.D., New York City, a retired practitioner of industrial medicine, was installed as the 124th president of the American Medical Association in July, 1969.

Dr. Dorman was a member of the AMA Board of Trustees from 1960 until his election as president-elect in 1968. In 1966 he also served as secretary-treasurer of the AMA, and as secretary of the Board of Trustees.

Dr. Dorman was born in 1903 in Beirut, Lebanon, where his father was a professor and dean of the School of Medicine at the American University. He received his bachelor's degree from Harvard in 1925, and his medical degree from Columbia University in 1929. He interned in surgery at St. Luke's Hospital in New York City in 1930-31, and from 1932 until 1942 was engaged in private practice as a surgeon.

During World War II, Dr. Dorman entered the Army as a field surgeon in 1942, and later served as executive officer of the Second Evacuation Hospital with the First U. S. Army in Europe. He was commissioned as a captain, and rose to lieutenant colonel on active duty. In 1963 he retired from the Army Reserve with the rank of colonel, in command of the 307th General Hospital.

From 1945 until 1947, Dr. Dorman was assistant medical director for employees' health of the New York Life Insurance Company, and from 1947 until 1960 he served as the firm's medical director for employees' health. He served as second vice president and medical consultant from 1961 until his retirement July 31, 1968.

Dr. Dorman was a delegate to the AMA from the Medical Society of the State of New York for six years before his electionto the Board of Trustees.

He has served the AMA as chairman of its Committee on Workmen's Compensation, as eastern co-chairman of its Physicians Committee on Radio, Television and Motion Pictures, and as a member of its Medical Military Affairs, Insurance and Prepayment Plans, and Health Care Financing committees.

Dr. Dorman is a past president of the Medical Society of the County of New York, and has held other office in that society. He also has held various high offices in his state medical society.

He has served as chairman of the World Medical Association Council, and is a member of many professional organizations.

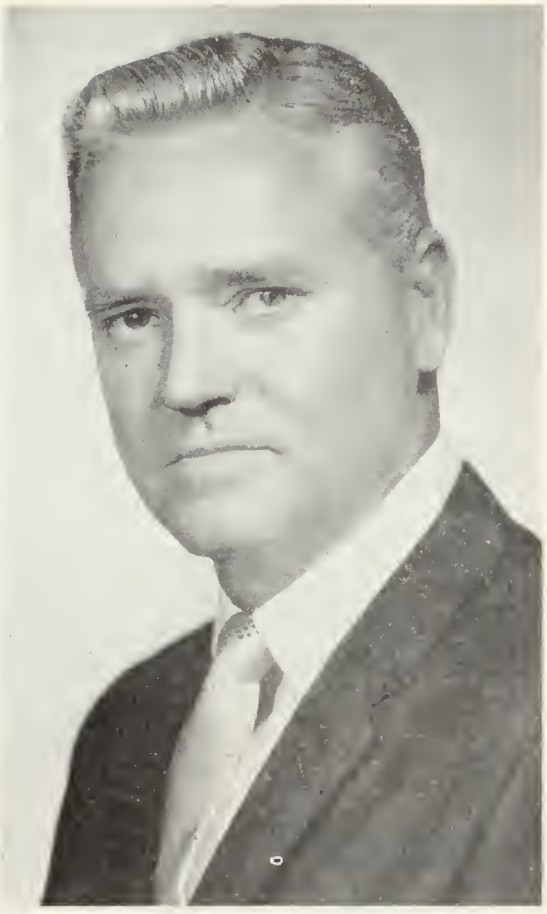
NEWS

During the weekend of February 28-March 1, some 2,000 family doctors throughout the country took a written exam to qualify as specialists in family practice, a new medical specialty approved a year ago by the AMA.

Most of the first group of examinees are members of the American Academy of General Practice, which requires them to take postgraduate study to keep up. 300 hours of postgraduate education is a requirement for taking the exam.

A new booklet, Guides to the Evaluation of Permanent Impairment—No. 12, The Skin, has been designed primarily for use by physicians. The guide is, however, of interest and use to all concerned with the medical, administrative, or judicial aspects of programs for the disabled.

A limited number of copies may be obtained, without charge, upon written request, to the Committee on Rating of Mental and Physical Impairment, 535 North Dearborn St., Chicago, Ill. 60610.



SEN. ERNEST HOLLINGS

SOCPAC BANQUET SPEAKER

SOCPAC is honored to have as its banquet speaker Senator Ernest F. Hollings. Senator Hollings is a native of Charleston. He graduated from the Citadel in 1942. He served with distinction in World War II, took an active part in the North African and European Campaignes, and was discharged in 1945 as a Captain. In 1947 he graduated from the University of South Carolina LawSchool. He was first elected to the House of Representatives in 1949. He was elected Speaker *Pro Tempore* in 1951, remaining in this ofice until he was elected Lieutenant Governor of South Carolina in 1954. In the same year he was selected as one of the ten Outstanding Young Men of the United States by the U. S. Chamber of Commerce. In 1958 he was elected Governor. During his term as Governor he was instrumental in establishing the Technical Education Centers and in developing Educational TV (in which South Carolina is one of the outstanding pioneers.) He was first elected to the United States Senate in 1966 to fill the unexpired term of the late Senator Olin D.Johnston. He was re-elected to a full term in 1968 by the largest majority ever given any Senate Candidate in the State of South Carolina. At the present time Senator Hollings is Assistant Majority Whip in addition to important assignments on the Banking and Currency, Commerce, and Post Office and Civil Service Committees of the Senate.



MRS. DAVIS D. MOISE
President

FORTY-SEVENTH ANNUAL CONVENTION

WOMAN'S AUXILIARY

to the

South Carolina Medical Association

Ocean Forest Hotel

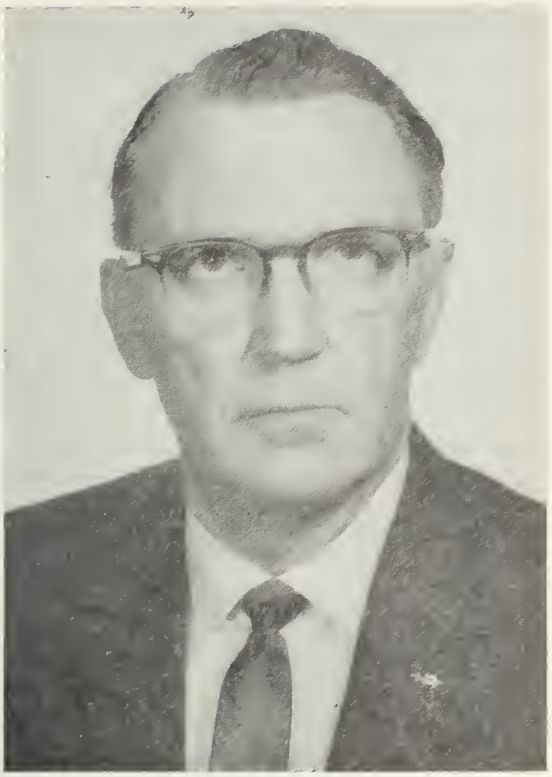
Myrtle Beach

The highlights of the Woman's Auxiliary program include talks by National Auxiliary President, Mrs. John M. Chenault of Decatur, Alabama, and by Dr. Peter C. Gazes of Charleston. Dr. Gazes will be luncheon speaker on Tuesday, and Mrs. Chenault luncheon speaker on Wednesday. Also featured on Tuesday afternoon at 5:00 P.M. in the Main Ballroom of the Ocean Forest Hotel, and immediately following the Men's Scientific Program, will be the "High Fashions from the Low Country"—a lovely Fashion Show from the "Piazza 52" of Mrs. Robert Solomon of Moncks Corner. We cordially invite and urge the men to enjoy this program with us. The Auxiliary officers for the year 1970-71 will be installed at House of Delegates and general Meeting on Wednesday May 13. Mrs. Thomas Parker of Greenville will be President 1970-71.

REPORTS

OF

COMMITTEES



WILLIAM PERRY, M.D.
President

Executive Committee of the State Board of Health 1969

We are very much concerned about the governor's recommendation of a merger of health and welfare and his recommendation on transferring the Pollution Control Authority to the Water Resources Commission. Considerable time has been spent in legislative committee meetings regarding these two proposals. We are very hopeful that the health of the people will not be jeopardized or endangered should the legislature carry out these proposals. Since the governor has excluded any health official or physician from the Water Resources Commission to which he proposes to transfer the Pollution Control Authority or from the proposed makeup of the executive board of the Department of Health and Social Services (H. 1524. To Create the Board of Health and Social Services), we are very fearful that the health interests of the people are being bypassed and so tried to stress this to all concerned.

The Executive Committee accepted with deep regret the resignation of Dr. J. Howard Stokes who has contributed much to this committee since he was appointed in 1958.

Dr. R. W. Ball, a fine administrator who has rendered a tremendous amount of service to the State Board of Health, retired on July 1.

The State Board of Health has tried to take as active a role as was permitted in the implementation of Title XIX (Medicaid), but we have not been as successful as we would like.

Dr. Hilla Sheriff has been elevated to the position of assistant state health officer and heads the Bureau of Community Health Services. She is responsible for cordinating services between the State Board of Health and the district and county units.

Major emphasis has been placed during 1969 on the continuing development of district health service organizations to improve uniformity and quality of health services throughout the State which has been divided into 13 public health service districts approximately equal in size and population. Eventually each will be staffed by a team of competent supervisory personnel composed of a physician, nurse, sanitarian and administrator who are trained and experienced in public health. Several years of planning for public health districts were climaxed when the General Assembly provided funds beginning July 1, 1969, for employment of a partial complement of district personnel. Because of the scarcity of adequately trained personnel and the tradition-breaking concept of district organization, it was decided to require local development of plans for district operation and approval of these plans by county governing bodies and legislative delegations prior to establishment of district supervisory positions. Despite this time-consuming but essential process, we have already filled 29 of the potential 52 supervisory district positions (7 physicians, 7 nurses, 10 sanitarians, and 5 administrative assistants.

The State Board of Health, based on the advice

of the Regional Health Planning Committee and the Advisory Council for Comprehensive Health Planning, recently recognized eight agencies in South Carolina to do district comprehensive health planning. They are the S. C. Appalachian Region Health Policy and Planning Council for the counties of Anderson, Oconee, Pickens, Greenville, Spartanburg, and Cherokee; the Upper Savannah Development District for the counties of Abbeville, Laurens, Greenwood, McCormick, Edgefield, and Saluda; the Central Midlands Regional Planning Commission for the counties of Richland, Lexington, Newberry, and Fairfield; the Lower Savannah Regional Planning and Development Commission for the counties of Aiken, Barnwell, Allendale, Bamberg, Orangeburg, and Calhoun; the Waccamaw Regional Planning Commission for the counties of Williamsburg, Georgetown, and Horry; the Charleston Area Comprehensive Health Planning, Inc., for the counties of Charleston, Dorchester, and Berkeley; the Pee Dee Economic Development District for the counties of Florence, Marion, Dillon, Darlington, Marlboro, and Chesterfield; and the Low Country Planning Commission for the counties of Hampton, Jasper, Beaufort, and Colleton.

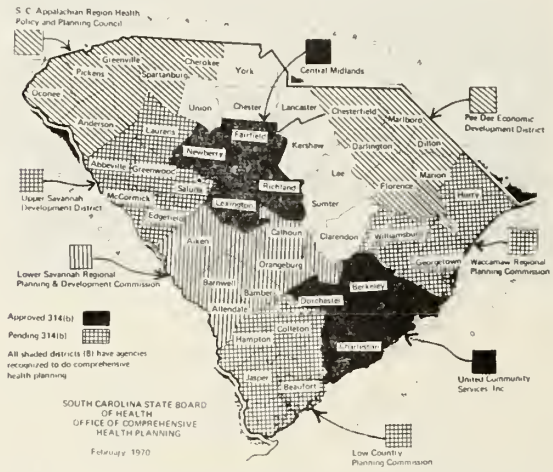
In order to provide an opportunity for physicians to become better acquainted with comprehensive health planning, and to discuss and offer suggestions about the various aspects of it, the Office of Comprehensive Health Planning will sponsor three one-day meetings in early 1970. Every physician in the State will be invited to attend at least one of these meetings.

The Division of Health Facilities developed the 1969-70 Plan for administration of the Hill-Burton Program in South Carolina. The health planning districts were designated as health service areas instead of the 46 counties. The federal share of project costs was reduced from two-thirds to one-half so that more projects could be funded. Plans were also developed for the use of federal assistance in the construction of community mental health centers and mental retardation facilities. This work was climaxed by successful negotiation of a transfer of $365,706 of federal community mental health center funds from Alaska and Oregon for use in South Carolina.

Licensed by the State Board of Health as of December 31, 1969, were 84 general hospitals, 5 specialized hospitals, 8 institutional general infirmaries, and 103 nursing care facilities.

Home health services under the Medicare Program were made available in 42 counties in 1969, and plans were completed for extending services to the other four counties in 1970. All these services are provided on the prescription of and under the direction of the attending physician. The number of patients served doubled from 1967 to 1968 and doubled again in 1969. For the last six months of 1969, the number of patients admitted was 1,454, discharged 1,174, and 45,370 home health services were counted. We estimate that at least 25,000 persons in South Carolina can benefit from home health services, so considerable further growth is anticipated, particularly since the number of persons over 65 in South Carolina is expected to increase by 26% in the next ten years. In a study of 1,505 home care patients discharged in 1969, the average number of weeks of service was 18, the average number of visits per patient was 25, and 71% of the patients were over 65 years old. The reasons for discharge were 31% no longer needed service, 23% died, 32% were admitted to hospitals and 6% to nursing homes, while the remaining 8% were transferred to another home health agency.

South Carolina is one of ten states participating in a national nutrition survey directed by the 1967 Congress to determine the prevalence of malnutrition and related health problems in the United



States. The survey will include approximately 2,300 families, selected randomly, in 100 randomly selected census enumeration districts in 16 counties of the State (Pickens, Greenville, Spartanburg, Chester, Lancaster, Lee, Florence, Williamsburg, Georgetown, Charleston, Richland, Calhoun, Aiken, Beaufort, Colleton, and Bamberg). A maximum of 2,900 individuals is included in the sample to be studied. The survey began in October, 1969, and will be completed by the end of March, 1970.

Each family selected to participate in the survey is interviewed in the home to obtain basic data and to encourage the members of the family to participate in the clinic phase of the survey. All individuals participating in the clinic phase are given a physical examination (including medical history) and a dental examination, and anthropometric measurements are taken. Our laboratory performs hemoglobins, hematocrits, and urinalyses on all subjects, while a select group undergoes many more sophisticated tests such as those for serum proteins, riboflavin, carotene, iron binding capacity, urinary creatine, and many others.

Survey participants found by the clinic staff to need medical, dental, or other services are referred to the appropriate county health department

for assistance or further referral to the proper resources in the community.

Through the activities of the 11 state-aid cancer clinics, all approved by the American College of Surgeons, almost 5,000 new cases of cancer were added to the cancer registry in 1969. Since one of our purposes is to promote early diagnosis, it was encouraging that 43% of the males and 57% of the females reported had localized lesions. Over 800 cancer clinic patients were hospitalized for diagnosis and/or treatment, and 9,000 received outpatient diagnostic services. The special cervical cytology screening project reached over 5,000 women in the tri-county area of Darlington, Florence, and Marlboro. This was the first Pap smear for 66% of those tested.

The ninth heart clinic was added in August, and monthly sessions are held in the Orangeburg Regional Hospital. As no funds are available for the hospitalization of heart clinic patients, the clinics function primarily as an evaluation and follow-up facility, referring those needing catheterization, surgery, etc., to the Medical University Hospital heart clinic which is financially assisted by the State Board of Health. Reported heart clinic cases having cardiac catheterizations number 272, angiocardiograms 269, coronary arteriograms 31, heart surgery 111. Nearly 2,000 heart clinic patients were seen in the nine heart clinics, and these patients made over 3,000 clinic visits. Through the special heart project in the Pee Dee area, professional education has been provided general practitioners, specialists, and nurses. Through weekly heart clinics, consultation conferences, and seminars, 110 physicians and nurses have participated in evaluating 364 cardiac patients.

Tuberculosis evaluation clinics operate in every county health department on a regularly scheduled basis. These clinics are staffed by qualified physicians, nurses, and x-ray personnel. They provide x-rays, physicians' evaluation, and chemotherapy for cases, suspects, contacts, and tuberculin reactors without cost for these services.

The number of new tuberculosis cases reported for 1969 indicates a further decline in this health problem. There were 630 new active cases, which represent a 3.2% decline from the 651 reported for 1968. The tuberculosis case rate for 1969 was 24.3% per 100,000 population, while the death rate was 2.0%.

The total case register included 3,389 cases. Of this number, 251 were hospitalized, 62 were in other institutions, and 3,076 were at home. Of those at home, 364 had active disease. Of the active at home, 89.0% were receiving chemotherapy, and 81.2% had a bacteriologic examination within the last six months.

A section for the treatment of patients with chronic respiratory diseases other than tuberculosis was opened at State Park Health Center in June, and this section includes an inhalation therapy department. The purpose of the section is for early diagnosis, treatment, and rehabilitation—not for terminal care. From the time of opening until the end of the calendar year, 32 patients were admitted, while 20 were discharged.

An architectural and planning firm was employed to make a study of State Park Health Center and submit a plan. A five-year plan has been developed which includes an outpatient diagnostic and follow-up center as well as the inpatient service.

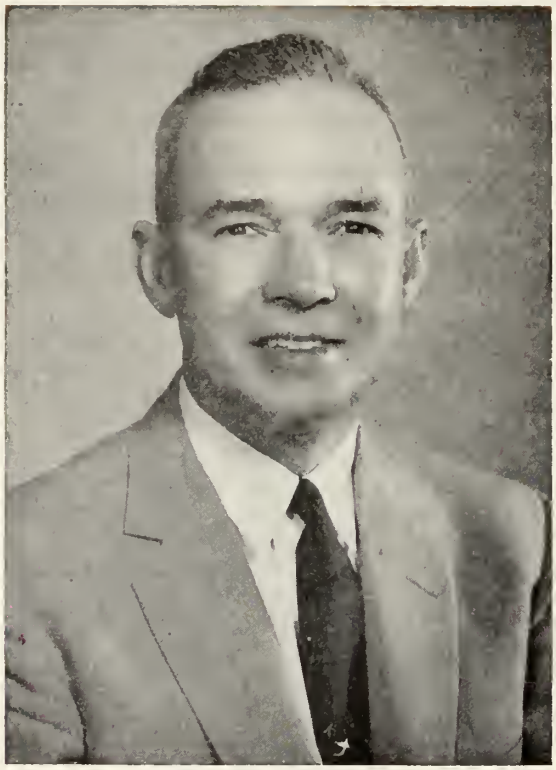
Maternal, infant, neonatal, and fetal death rates for South Carolina have not changed significantly during the past year. Efforts for reducing these rates are constantly a concern of the State Board of Health. Significant reductions in the rates will be evident only over a fairly long period of time.

Family planning, including screening for uterine cancer, prenatal and postnatal clinics, midwife services, child health clinics, and school health services have continued. Child health nursing conferences have been established in 27 counties. Nurses have been specially trained to conduct these conferences which include physical and developmental appraisals as well as counselling. Such conferences aid in reducing the already exaggerated demands on physicians' time as well as offering a more comprehensive health service to the child.

The Child Evaluation Clinic serves the State by providing comprehensive evaluations for children up to eight years of age who show deviation from the expected normal mental development. Patients are accepted on physician referral from the entire State, with the reports of the evaluation furnished the referring physician and interested agencies.

A supplemental food program for mothers and preschool children, based upon medical evaluation and medical need, was begun in Beaufort, Jasper, Hampton, Allendale, Berkeley, and Sumter Counties. This program, provided through a cooperative effort of the U. S. Department of Agriculture, State Board of Health, local health departments, and other community effort, is available to all counties which will provide for the distribution of the food commodities to those persons determined eligible by the local health officer or his designee. Where possible, health and nutrition education are provided by the local health department, OEO, or Clemson Extension Service personnel.

Although the number of patients who received services for crippled children has not significantly increased, those children accepted for services have conditions more severe and costlier to treat than has been the case in the past. The current case registry numbers approximately 6,400 children, with 3,200 being registered on the program only three and one-half years or less. Approximately 33% of the children are under seven years of age. This indicates the program is providing early case-finding and care for patients, thereby attaining



BEN MILLER, M.D.
President-Elect

maximum medical care toward the patients' needs. Clinic services, hospitalization, orthopedic appliances, hearing aids, and a wide range of consultative services continue to comprise the primary services offered these children. Program coverage has been expanded to include additional personnel providing supportive services such as speech and hearing, physical and occupational therapy, and medical social services. A new (subdistrict) clinic was established at the Aiken County Health Department to serve the Aiken district.

The 1969 camping session was different from those previously operated in that children with more severely handicapping conditions were accepted and the age group was enlarged to include children 7-16. We hope to make further expansions in the camping program during the next session.

Dental programs provided around 5,000 patients with about 27,000 dental treatments. Nearly 100% of these patients were children in a dental indigency capacity. Services to eligible crippled children and adult patients under the M & I Project category made up a very small percentage of this total. Three programs of note were established during the year. The first of these is the Appalachia-supported program in Pickens County in which two dentists are employed full-time. The second program is that established at Camp Fornance, a low-income area of Columbia. This program is conducted in cooperation wth Planned Parenthood and is serviced by two dentists on an hourly basis. The third program is a combination teaching and service type of procedure located at the Columbia Area Trade School. Eligible recipients receive dental care one-half day a week, and the dental assistants who are in training receive on-the-job experience. Education and preventive services are a continuing activity.

Introduction of a rubella immunization program, statewide, was an outstanding event. An estimated 450,000 children between one and ten years of age require immunization to abort an expected epidemic in 1970-71.

During the first half of 1969, South Carolina experienced an Asian (Hong Kong) influenza epidemic. No cases of poliomyelitis were reported during the year, but three cases of diphtheria, 28 cases of pertussis, one case of typhoid fever, 13 cases of encephalitis, and 130 cases of measles were reported. It is estimated that the State Board of Health is getting less than 10% reporting on the general infectious diseases, with the exception of syphilis. We would like to ask the physicians of the State to report the diseases they see in their practice.

Emphasis on epidemiological treatment of venereal disease contacts and introduction of token payment to physicians for treatment in areas without clinics doubled the number of contacts epidemiologically treated to 645. The diagnosis of secondary syphilis fell sharply to 298 cases, indicating increased treatment of primary and incubating cases.

The Division of Occupational Health was organized, using federal funds, but recruitment of personnel has been without success. Visits to various industries, cooperation with medical committees, and embryonic occupational health efforts within state agencies were initiated.

Twenty-three packaged disaster hospitals were affiliated with established community hospitals. This represents 50% completion of the affiliation program. About 12,000 persons were trained in medical self-help, and numerous community workshops were held.

In health education, priority emphasis was placed on intestinal parasite control, nutrition, accident prevention, and immunization. Approximately 100,000 pieces of educational material were distributed, films shown to 40,000 South Carolinians, 250 news items released, and 100 television programs produced. Effort was focused on providing material and direct assistance to preschool and school teachers.

Arrests by the Narcotic and Drug Control Division included 107 marijuana cases, 24 heroin cases, 61 for other narcotics, 44 for stimulant or depressant drugs, and 28 for misuse of other prescription drugs. Two physicians were arrested for violating the narcotics laws and two for mishandling stimulating drugs. Three other physicians surrendered their narcotic tax stamps because of illegal activities. Five pharmacists and two drug

store owners were arrested, as were three nurses, for violating the drug laws.

There has been a very marked increase in the use and sale of heroin and marijuana in South Carolina. The use and abuse of drugs is a serious problem in the high schools and is quite common in the colleges and universities. Lack of cooperation by college officials makes it difficult to work in these institutions.

Continued progress has been made in the Food Protection Program which helps train 50,000 food service employees and inspects 5,400 food service establishments in the State. With only 22 of 229 municipalities in South Carolina using an acceptable method of solid waste disposal, much emphasis has continued on the planning and consultation provided in the Solid Waste Program.

Review and approval were given to 142 plans and specifications for new water-works construction, including 45 new subdivision complete water systems; and 450 field visits were made which included final inspection of new work, routine surveys, interstate watering points, follow-up on unsatisfactory bacteriologicals, problems in treatment plants, and sanitary surveys for cross-connections. Collected for bacteriological analyses were 22,736 water samples, and 674 water samples were collected for chemical analyses. Review was made on water and sewerage plans and specifications for public facilities, and approvals were granted for 22 hospitals and nursing homes, 79 public schools, 43 government buildings, and 102 artificial pools. Inspected were 150 natural swimming areas with 689 bacteriological samples taken, and 5,251 inspections were made on artificial pools with 5,744 bacteriological samples taken. Two water and wastewater treatment schools were held with 144 students participating. The Bureau of Sanitary Engineering continues to work closely with consulting engineers in obtaining correct sewage collection and treatment facilities to protect the public health, and plans for 197 sewage disposal installations were approved during the year.

The State of South Carolina entered into an agreement with the U. S. Atomic Energy Commission in September, 1969, giving the State Board of Health authority to license, register, inspect, and regulate all sources of ionizing radiation. Since that time 129 radioactive material licenses have been issued, and the inspection of radioactive material users has begun. Registrations of x-ray machines number 1,688, and inspections of these machines have shown over 250 separate violations of the x-ray regulations. Over 1,000 samples of air, water, milk, vegetation, and fish were analyzed by the Radiological Laboratory last year.

The Technical Advisory Radiation Control Council met three times during the past year. Its members include Dr. U. H. Bodie, Dr. George R. Brunson, Dr. Henry I. Litle, Dr. Lyles Sherman, and Mr. Rus R. Wilkie.



ANTHONY WHITE, M.D.
Vice President

The Radiological Medical Advisory Committee met once during the year. Its members are Doctors Maria Buse, Karl Tornyos, U. H. Bodie, S. B. Fishburne, George Brunson, and John Buse. Both of these committees advise the State Board of Health on matters dealing with radiological health.

One of the major accomplishments of the Bureau of Laboratory Services and Research in 1969 was the establishment of a permanent Training Section, one purpose of which is to provide continuing education courses in medical laboratory technology, a service not available elsewhere in the State of South Carolina. A three-day seminar on food microbiology, attended by federal and state representatives from Florida, Georgia, Mississippi, North Carolina, and South Carolina, was co-sponsored with the Food and Drug Administration. The Bureau, with the assistance of the National Communicable Disease Center, has been very successful in its training endeavor.

Another important function of the Training Section is the expansion of a voluntary proficiency testing program in microbiology for the many medical laboratories in the State. There are as many as 45 laboratories participating in syphilis serology, parasitology, bacteriology, and mycology evaluations. This program has been well received by the participants.

Over 20 cases of Rocky Mountain spotted fever were confirmed by the Laboratory, including three deaths. This was a marked increase over previous years, and epidemiological investigations have been instituted.

Viral diseases were prominent during the past year. Hong Kong influenza occurred in major proportions during the winter of 1968-69, and the Virology Section worked overtime in confirming this diagnosis by isolation of the agent from throat washings and serological confirmations on patients suspected of having the disease. An outbreak of aseptic meningitis in the Georgetown area was investigated jointly by the Disease Control Section,



Strother Pope, M.D., Secretary

the Vector Control Section, and the Bureau of Laboratory Services and Research. This laboratory confirmed three cases of eastern equine encephalitis in horses from the Dillon area, an outbreak in pheasants from the St. George area, and one human case of the same disease from McClellanville.

With the advent of the rubella vaccine in June of 1969, there has been a sharp increase in requests for rubella antibody determinations. This is a serological examination which is available to all physicians of the State.

Under a contract with the U. S. Public Health Service and the Georgia Bureau of Wildlife, the laboratory performs pesticides analyses on crab specimens gathered in North Carolina, South Carolina, Georgia, and Florida.

Requests by the State Department of Mental Health and the State Department of Mental Retardation for the sexual sterilization of twelve persons were approved.

The estimated number of live births in South Carolina in 1969 is 50,030, a 2.15% increase over the number for 1968, and the estimated number of deaths is 22,514, a decrease of 2.17% over the number for 1968.

W. Wyman King, M.D., Chairman

Committee on Medicine and Religion

On Feb. 15 the committee discussion began by informal reports of the various county activities. Dr. Jeffords and Moody gave an account of the securing of a full-time chaplain for Spartanburg General Hospital and the types of programs he has initiated. These include training of ministers, a seminar on pastoral care of the sick for a multidisciplinary group, a two day seminar on alcoholism for ministers, physicians, nurses and others.

Dr. May stated that the physician-minister relationship in Bennettsville area was more of a personal one. There is usually one scientific meeting of the Marlboro County Medical Society, but all of the members are also on the professional staff of the Hospital. Although there is no hospital chaplain, the staff is considering setting up with the ministers to have one of them on call as chaplain at all times.

Dr. Baroody was concerned about no progress being made in the main hospital in Florence County and felt it was not a good arrangement to have a retired minister undertake the work of a chaplain, that it required the full-time energies of a younger man. Dr. Timmons reviewed the activities of the Columbia Medical Society in respect to the Seminary project, the joint minister-physician meeting in October 1968 with Dr. (Rev.) McCleave as speaker, a program on "Death" with Dr. (Rev.) Cleland, of Duke, as speaker in October 1969, and the use of physicians in providing lectures for senior seminary students.

Mr. Peterson of the AMA gave information of AMA department activities and what some of the other state groups are doing. He particularly mentioned Cobb Co. (Georgia) Medical Society, where there is a top-notch annual symposium and the Bar Association is involved along with other health professionals. The new AMA 28 minute film, "A Storm—A Strife", is available for any county society on a 10 day notice, at no cost except return postage and insurance. He offered to meet in any area of the State with any group when requested.

The committee is to collect information on various religious and other agences and make it available to the entire state membership through county chairmen and churches.

Dr. Baroody requested the committee to again sponsor a program during the S. C. Heart Association annual meeting in Charleston April 23, 24, and 25. He suggested a panel topic on "The Place of the Clergy in the Intensive Care Unit". The program sponsored in 1969 was well received.

The group felt that it would be profitable for every county society that held regular meetings to have an annual meeting with the local ministers.

It was agreed that the committee would sponsor the showing of the film, "A Storm—A Strife" at the May 1970 South Carolina Medical Association Annual Meeting. We also agreed to start now preparing a program for the 1971 Annual meeting and to request now a place for this as in 1968.

It was agreed we should again explore the possibilities of utilizing Educational Television to provide information and education as to the program of Medicine and Religion to professional viewers and to the public.

It was decided to invite Dr. R. P. Baker of Newberry and Dr. Jimmie H. Carpenter of Seneca to join our expanded committee and to invite Dr.

(Rev.) F. E. Reinartz, President of Lutheran Theological Seminary and Rev. Rob Claytor, Chaplain, Spartanburg General Hospital to be ex-officio members of the committee.

The committee is to meet again in the Fall and at this time the 1971 State Program should be made final. Meanwhile, an attempt is to be made to prepare a small exhibit (bulletin board, or table top) for the 1970 meeting in addition to the film showing.

Sub-Committee on Medical Aspects of Sports

This committee met on the afternoon of October 2, 1969 at Moore Clinic in Columbia. Several problems of old business were discussed at that time including the inadequacy of insurance coverage in many high schools in the state for injuries to intercollegiate athletes. It was the concensus of opinion that the best approach for this would be with group insurance, probably being provided through the South Carolina High School League. This is to be discussed with Mr. Larry Graves of this association and possibly with the insurance committee of the South Carolina Medical Association.

The possibility of having a section of the state convention devoted to medical aspects of sports was also discussed. In this same vein, it was noted that one day the South Carolina AAGP meeting in November, 1969 was to be devoted to sports medicine.

There were two items of new business other than the annual conference. One has to do with the advisability and possibility of having a physician on hand at every high school football game as requirement for starting the game. The technical difficulty of this is recognized. Also discussed was the possibility of having a college trainer legally present at the All Star Games sponsored by the South Carolina Coaches Association and High School League. It is felt that this would have to be cleared through the NCAA committee on competitive safeguards.

The committee thought that more emphasis should be directed at coaches and high school trainers at this years conference. It was therefore decided to try to hold the conference during the coaches clinic in August of 1970. Permission has been obtained to have a sizable section of this program devoted to medical aspects of sports and a program will be developed. This will be done on the 4th and 6th of August during the annual High School Coaches Clinic in Columbia. Talks will center around the more practical aspects of sports medicine, primarily in the areas of injury prevention, preventive taping, and heat problems. A final program at this time has not been accomplished.

Judson E. Hair, M.D., Chairman



HOWARD STOKES, M.D., Treasurer

Medical Advisory Committee to the South Carolina Vocational Rehabilitation Department

(Subcommittee of the Committee on Cooperative Activities)

A mutual, beneficial, and cordial relationship exists between the SCMA Medical Advisory Committee and the Vocational Rehabilitation Agency. The Chairman is directly involved in the agency; and, thus is able to use the resources of the committee as a whole as well as individual members of the group in relating organized medicine to the actions of the agency.

The Medical Advisory Committee met in Columbia February 19, 1970. The majority of the committee members were present. A number of members of the agency were present to furnish information to the committee as well as to ask questions from the members. The Chairman of the Committee had kept in touch with the membership over the year, settling many points in the medical area as they confronted the agency. As a consequence of this operational approach there were no major problems to present.

The format of the meeting presented a member of the Commission plus progress reports from the Director, Deputy Director, Regional Representative, and others.

The recently adopted Relative Value Study Sche-



THOMAS PARKER, M.D.
Delegate to AMA

dule was discussed and the use of this method of payment to doctors was favorably received.

The Chairman, Dr. Ben N. Miller, was re-elected for another year.

Ben N. Miller, M.D.

Committee Report on Infant and Child Health

There being no urgent proposed business, the committee held no formal meeting during the past year. Its main function during this interim has been availability to the Bureau of Maternal and Child Care for consultation.

Casper E. Wiggins, M.D., Chairman

Committee on Medical Services

This committee's activity has been severely curtailed during the previous year initially because of failure to get a quorum at any meeting and secondly by the untimely illness and subsequent resignation of its chairman, Dr. A. Izard Josey.

This committee did study the delivery of medical care throughout the state. Questionnaires were sent out and, based on these, recommendations were made to Council. Council did not act to implement these changes. These recommendations were briefly stated: 1. To strengthen county medical societies and encourage doctors to affiliate with the County Medical Society. 2. To set up out patient clinics in areas of need. This clinics were to be under the supervision of the County Medical Society and the State Board of Health. 3. That Council set up ways and means under which the South Carolina Medical Association cooperated with and actively participated in broad federal and state health programs; specifically, the "State Comprehensive Health Planning Act", and the S. C. Health Forum. It was felt that the medical profession must take a much more active part in these modern changes and guide these changes and not be guided by governmental and often nonmedical personnel.

The Third National Congress on Socio-Economics of Health Care was attended by one of the members. Physician up-grading, peer judgment, quality control, utilization review, and continuing education were the main topics discussed.

The physician shortage was frequently alluded to. Methods of increasing physician productivity, the use of ancillary medical personnel, and the greater utilization of electronic equipment including computers, electronic monitoring, and automated analyzers in the clinical laboratories were some of the methods suggested to ameliorate the shortage and to increase individual productivity.

It was brought out that in the past thirty years we have been eminently successful scientifically in meeting the needs of our patients and now we must be successful in solving the social and economic problems as well. First of all the physicians must be continually at work to up-grade the quality and delivery of medical care.

Hugh H. DuBose, Acting Chairman

Mental Health Committee

During this year there were no formal meetings nor were there any formal activities of this committee.

It is worthy of note that the William S. Hall Psychiatric Institute of the South Carolina Department of Mental Health and the Department of Psychiatry of the Medical University of South Carolina have significantly increased their efforts and programs in psychiatric education during this past year.

James B. Galloway, M.D., Chairman

Committee on the South Carolina Eye-Bank

Increasing interest in the program of sight restoration and conservation of the Eye-Bank is evidenced by the fact that there are now 10,893 donor forms on file. This is an increase of 1,694 during the past year.

The Eye-Bank has provided 63 eyes during the past year. Of this number 36 came from South Carolina donors and the remainder from other eye-banks for use by South Carolina physicians. There were 42 transplant operations performed, and the remaining eyes were used for teaching or research.

There is still the problem of a long waiting period from the time a request is received and eyes can be provided. Many donors die and we do not receive the eyes because the family often forgets to notify the Eye-Bank in time.

John Young, M.D.
Chairman

Committee on Constitution and By-Laws of South Carolina Medical Association

The Committee on Constitution and By-laws met in September to consider several problems which had arisen. The first of these concerns the organi-



JOHN HAWK, M.D.
Delegate to AMA

zational liaison between the House of Delegates of the South Carolina Medical Association and a representative of the Medical University of South Carolina. The Committee feels that much could be gained by having a permanent representative of the Medical University as an ex officio member of the House of Delegates and recommend that the President of the Medical University be given a seat in the House of Delegates.

This can be accomplished by adding to Article V Section I the following: the President of the Medical University of South Carolina or his duly appointed representative.

The Committee also feels that much of the work of the Standing Committees is lost during the session of the House of Delegates because the Reference Committees appointed at that time usually contain none of the members of the permanent Standing Committees. It is our feeling that the President of the Association should include on Reference Committees one or more members from the appropriate Standing Committees and when at all possible the Standing Committee representative should be chairman of the Reference Committee. In this manner the experience gained and the work done between sessions will not be lost by having a Reference Committee totally unacquainted with preexisting problems and solutions. A resolution should be sufficient to cover this situation.

Redistricting by population members of the Council continues to be mentioned and the Committee is continuing its study in this field. The Anderson County Medical Society has requested a study of the Fourth District and we have taken this request under advisement.

Whereas, problems often arise which are of mutual concern to the State Medical Association and the Medical College of this and other states and

Whereas, the State Medical Association has found it necessary in the recent past to request information and advice from representatives of our Medical College, and

Whereas, there exists at present no official position in the House of Delegates inviting the constant attendance of representatives of the Medical College during meetings of the House, and

Whereas, this has on occasion been cause for delay in obtaining information, reaction, and advice from the Medical College on matters of mutual interest and concern,

Therefore, be it resolved that the constitution be amended to include the President of the Medical College as an ex-officio member of the House of Delegates by adding to Article V, Section I, the following:

(8) The President of the Medical University of South Carolina or his duly appointed representative.

J. Gavin Appleby, M.D., Chairman

Committee on Maternal Mortality

A full report of this committee appears in this Journal.

In 1967 there were 49,865 live births reported in South Carolina and 27 maternal deaths reviewed by the Maternal Health Committee. In 1967, the overall rate of deaths per 10,000 births was 5.44.

As these cases were reviewed, primary cause of death was assigned and as in the past hemorrhage, sepsis and toxemia accounted for a great majority of the deaths. As the committee reviewed the maternal deaths for 1967, it was felt that 13 of the 27 deaths could have been prevented.

E. J. Dennis, M.D., Chairman

Committee on Industrial Medicine

During the past year, this Committee has concerned itself primarily with work with the South Carolina Industrial Commission and the Schedule of Fees for Physicians and Surgeons for Services Rendered under the South Carolina Workmen's Compensation Law. The Committee met with the South Carolina Industrial Commission twice during the year and has received approval from the South Carolina Industrial Commission for a change in the conversion factor from 5 to 6 on the Schedule of Fees for Physicians and Surgeons. This conversion factor change was made effective January 1, 1970.

Other recommendations made to the South Carolina Industrial Commission for inclusion in the fee schedule are the following:

(1) Disability evaluations and/or ratings should be made in accordance with the American Medical Association guides to the evaluation of permanent impairment.

(2) Payment for suture tray in the physician's office, including routine suture instruments and local anesthesia—$9.50.

(3) Injections of homotetanus (human tetanus)—$5.00.

(4) For medical testimony subpoened to appear at hearing before Commission with or without testifying—1st hour—$50; for each additional hour or fraction thereof—$35.

(5) Anesthesia—first half hour—$35; each additional half hour—$20.

(6) Surgical procedures which are less than $18 by the manual—that follow-up visits in the office



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HARRISON PEEPLES, M.D.
Alternate Delegate to AMA

may be charged and paid by the insurance carrier. Those procedures which are above $18 followup care are included in the original payment.

The Committee met with Dr. E. L. Proctor, President of the South Carolina Dental Association and Dr. Hoffman of the South Carolina Dental Association to consider an appropriate dental fee schedule to be included at a later date in the Schedule of Fees for Physicians and Surgeons. This request came to the Commitee from Dr. Payne because more and more industrial injuries involving dental repair and replacement of teeth are occurring in industry today. Dr. Hoffman and Dr. Proctor were appointed consultants to Dr. Payne, Physician to the South Carolina Industrial Commission regarding dental fees.

The Committee on Industrial Medicine of the South Carolina Medical Association met with representatives from the South Carolina State Board of Health to see what was being done in regard to organization of an Occupational Health Division of the State Board of Health. We learned that some federal funds had been allocated for organizing an Occupational Health Division within the Board of Health of South Carolina. At the present time, the State Board of Health is attempting to recruit a qualified Occupational Health Hygienist and one technician for this division. At the present time, some activities for industrial health are being carried on under the Bureau of Preventive Health Services.

The Committee was asked to send a representative to the Congress on Occupational Health of the American Medical Association in St. Louis on September 14, 1969. A member of this Committee attended this meeting, which provided a free exchange of ideas between the AMA Council and those from each state industrial committee. Most of the time at this meeting was spent discussing the Health and Safety bill.

During the next year, this Committee will be concerned with the new federal legislation regarding health and safety of industrial employees. This will come under several headings such as Noise Pollution, Stream Pollution, and Environmental Control as well as Industrial Hazards.

Allen R. Slone, M.D., Chairman

Advisory Committee to the Crippled Children's Society

There has been no occasion during the year for any real activity on the part of this committee, which acts as a standby group to be used whenever the occasion arises in the activities of the Crippled Children's Society. The Society has recently occupied new headquarters in Columbia



HAROLD HOPE, M.D.

Chairman of Council

and appears to be flourishing. The annual meeting of the committee will be held at the time of the convention of the association in May.

Joseph I. Waring, M.D., Chairman

Public Relations Committee

There has been no marked activity of this committee during the year. The chairman continues to perform various functions, such as the weekly health column carried by 13 newspapers in the state, making some contact with the senior medical students and providing them with material about the Association, and conducting the annual meeting of the County Medical Societies Officers.

Joseph I. Waring, M.D., Chairman

Committee on Historical Medicine

The activities of this committee have consisted of a continuation of the effort to produce a third volume on the history of medicine in the state and bring the story up to date. Sufficient material has been accumulated to make it seem likely that publication, if it is desirable by the association, may be achieved in a matter of months.

Joseph I. Waring, M.D., Chairman

WINCHESTER

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Winchester Surgical Supply Company
200 SOUTH TORRENCE ST. CHARLOTTE, N. C. 28201
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Serving the MEDICAL PROFESSION of NORTH CAROLINA and SOUTH CAROLINA since 1919.

We equip many new Doctors beginning practice each year, and invite your inquiries.

We have salesmen living in South Carolina to serve you

We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.

EXHIBITORS

Stuart Division

The Stuart Division of Atlas Chemical Industries, Inc. will feature the new, reformulated DIALOSE PLUS at the S. C. Medical Association Convention this year. SORBITRATE, the anti-anginal compound and MYLANTA will also be displayed. Representatives will be on hand to offer information and samples of all Stuart products.

Bristol Laboratories

Bristol Laboratories will display antibiotics for any infection, featuring Bristol's semi-synthetic penicillins, and other antibotics.

Marks Surgical Supplies, Inc.

Our display will consist of the Ritter Company, Badger Laboratories' "Long Green Line" and Serosonic Labs.

Meyer Laboratories, Inc.

For exhibit:

ATHEMOL-N—for treatment of the manifestations of Arteriosclerosis and Peripheral Vascular Disease—

VICON-C—for depletion of B-Complex, Vitamin C, Zinc and Magnesium, caused by physiological stress, chronic illness or acute illness.

Smith, Miller & Patch, Inc.

Smith, Miller & Patch, Inc. will feature our new non-barbiturate hynotic, SOMNAFAC and SOMNAFAC FOURTE; DECONAMINE, a potent oral antihistamine and decongestant in three dosage form: PYOCIDIN HC OTIC SOLUTION; VASOCIDIN Ophthalmic-Otic Solution; our hematinics. VITRON-C and VITRON-C PLUS; and our specialty bowel regulator, KONDREMUL.

The UpJohn Company

Professional representatives of The Upjohn Company are eager to contribute to the success of your meeting. They are here to discuss products of Upjohn research designed to assist you in the practice of your profession. They welcome your inquiries and comments.

Lakeside Laboratories, Inc.

Lakeside Laboratories, Inc. exhibit includes Cantils, Imferon, Mercuhydrin, Metahydrin, Metatensin & Norpramin.

Astra Pharmaceutical Products, Inc.

Information and descriptive literature pertaining to Xylocaine (lidocaine) and Citanest (prilocaine) local and topical anesthetics, and the intravenous use of Eylocaine in the treatment of life-threatening cardiac arrhythmias will be available at the Astra booth.

Acta-Fax

Acta-Fax Business Machines will feature the latest in office copying machines and new techniques for copying new Medicare forms.

The Copystat 25 will be displayed for the first time. This offers the doctors a 30 copy per minute electrostatic copier, but with a price tag that is ideal for the small to medium size office. Also, the latest Savin copier will be displayed.

G. D. Searle & Co.

You are cordially invited to visit the SEARLE booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be information on OVLUEN-21, OVULEN-28, ENOVID, ALDACTAZIDE, FLAGYL, LOMOTIL, PRO-BANTHINE and other drugs of interest.

Abbott Laboratories

The Abbott exhibit will feature important pharmaceutical specialties including a widely prescribed non-barbiturate sedative and hypnotic, also a new hematinic containing folic acid.

Eli Lilly and Company

You are cordially invited to visit the Eli Lilly and Company exhibit. Our sales representatives welcome your questions about our pharmaceutical products. You may be particularly interested in discussing ILOSONE Erythromycin Estolate. Mr. D. M. Burns will be our sales representative in charge of our exhibit at the meeting. Mr. Burns will be assisted by Mr. C. D. Cato.

Endo Laboratories Inc.

ENDO LABORATORIES will present the latest clinical information relating to our products, COUMADIN (Sodium Warfarin), NUMORPHAN (Oxymorphone) HCL, PERCODAN,, PERCODAN-DEMI-HYCOMINE, HYCOMINE-COMPOUND, HYCOMINE-PEDIATRIC, HYCODAN, VALPIN, VALPIN -PB, PERCOGESIC, PERCOGESIC-C.

Mead Johnson

Mead Johnson Laboratories, Serving the Medical Profession since 1905. South Carolina Representatives are:

Bob Honeycutt, 9 Guyton St., Greenville, S. C. 29607

Bill Long, P. O. Box 662, Columbia, S. C. 29202

Bill Hough, 106 James Court, Spartanburg, S. C. 29302

Bob Bowman, 220 Forrest Trail, Isle of Palms, S. C. 29451

The Merck Sharp & Dohme Technical Exhibit

The Merck Sharp & Dohme exhibit has been

designed to supplement the physicians therapeutic armamentarium. Technically trained personnel are present to discuss the scope and variety of services offered.

ORTHO Pharmaceutical Corporation

ORTHO* is proud to present the most complete line of medically accepted products for control of conception and the treatment of vaginitis.

Parke-Davis

Parke-Davis is proud of more than a century of service to the medical profession. Our representatives consider it a pleasure to contribute to the success of your meeting. They will be present to discuss the quality products from Parke-Davis, and welcome your comments or inquiry.

Pepsi-Cola Co.

Our exhibit will be in the nature of a bar with a Pepsi dispense and an attendant in charge.

William P. Poythress & Company, Inc.

You are cordially invited to visit the exhibit of Wm. P. Poythress & Co., Inc., manufacturers of ethical pharmaceuticals since 1856, and discuss our line of established products.

Our medical representatives will be available to supply you with literature, samples and technical information on Antrocol, Bensulfoid Lotion, Merpectogel, the Mudrane combinations, Panalgesic, Solfo-Serpine, Solfoton, Synirin, T C S, Trocinate and Uro-Phosphate.

Sandoz Pharmaceuticals

Sandoz Pharmaceuticals cordially invites you to visit our display at booth No. 6, where we are featuring MELLARIL, HYDERGINE, SANSERT, CAFETERGOT P-B, FIORINAL and BELLERGAL.

Any of our representatives in attendance will gladly answer questions about these and other Sandox products.

Schering Corporation

SCHERING LABORATORIES invites you to visit their exhibit, Booth Space No. 8 where their representatives will be available to discuss with you any questions you may have on ETRAFON(R) DRIXORAL(R), VALISONE(R), or any other Schering product.

Sealy of the Carolinas, Inc.

As in years past, Sealy of the Carolinas, Inc. will display the nationally-known Posturepedic Extra-Firm innerspring and Foam Rubber mattresses with their matching and exclusive "Posture-Grid" foundations. Posturepedic is by far the largest selling mattress of its type. For many years members of the medical profession have been given the opportunity to purchase Posturepedic bedding for their own use or for that of members of their family at special medical discount pricing. In North and South Carolina Posturepedic bedding is manufactured by the 68-yearold Peerless Mattress Company of Lexington, N. C., pioneer among bedding manufacturers of the south, operating from six warehouse locations in the two Carolinas.

Smith Kline & French Laboraories

Representatives will be on hand to answer your specific questions and provide information on their products and services.

Wachtel's Physician Supply Co.

Our exhibit will consist of the new Haema-Counter by General Science; Unimeter—Bio Dynamics; Burdick EK4, and many other new items.

Warren-Teed Pharmaceuticals Incorporated

Warren-Teed Pharmaceuticals Inc. is pleased to support this important function of the South Carolina Medical Association by exhibiting at this meeting. All physicians and medical associates are cordially invited to visit Booth No. 30 and discuss several Warren-Teed products selected especially for this meeting.

Winchester Surgical Supply Company

WINCHESTER SURGICAL SUPPLY COMPANY
"Carolinas' House of Service"
Distributors of KNOWN BRANDS of PROVEN QUALITY
WE SERVICE WHAT WE SELL

Serving the Medical Profession of South Carolina since 1919. This will be our 49th consecutive meeting to attend and exhibit.

We invite you to visit our booth No. 35 where you can see and examine the latest in Instruments and Scientific Apparatus. Emory Floyd, Ray Jackson and R. Murphy Conder will be there to greet you.

Macdonald Co.

We will exhibit the following:
Microfilm (for records review and retrieval)
Billing systems for doctors
Nye Dictating Systems
Telephone answering devices
Copying machines for the doctor offices.

Breon

Breon Laboratories Inc. presents a full line of products for the care of patients with chronic obstructive pulmonary diseases. Included are ALEVAIRE, BRONKOMETER, BRONKOMETER, BRONKOSOL, BRONKOTABS, BRONKOTAB-HAFS, BRONKOLIXIR and BRONKEPHRINE. Supplying a variety of formulas, dosage forms and actions; these products offer both prophylaxis and therapy, in

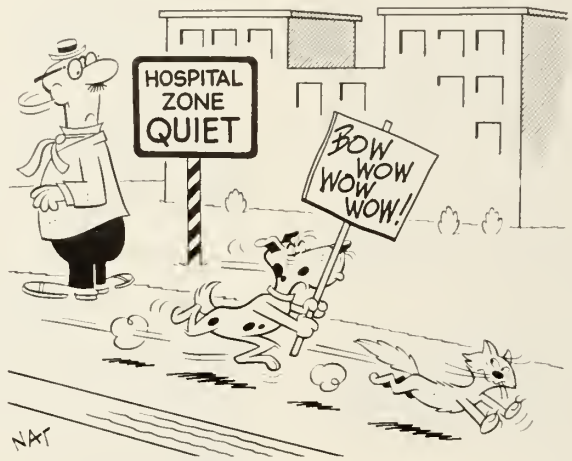
chronic or acute conditions, to all ages. Breon personnel will gladly discuss specific products and therapies with you.

Arnar-Stone Laboratories, Inc.

AMERICAINE TOPICAL ANESTHETIC—20% dissolved benzocaine in a water-soluble base—ointment, suppositories and aerosol forms.

HAZEL-BALM — cooling, soothing witch hazel and emollient lanolin in aerosol form.

SOPOR—Non-barbituate hynotic sedative for gentle untroubled sleep. Particularly useful with geriatric patients.



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Richmond, Virginia

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you can hang on for a few more minutes, Doctor, 'm sure I'll sneeze again."

sneeze. And sneeze some more. But with Novahis- LP, most patients get prompt and long-lasting f from the symptoms of allergies and colds. These inuous-release tablets have a vasoconstrictor-anti- mine formulation that begins working in minutes, continues to provide relief for hours. Even when l congestion is due to repeated allergic episodes, Novahistine LP tablets, morning and evening, let most patients breathe freely all day and all night. Use with caution in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result.

Novahistine® LP decongestant

(Each tablet contains 25 mg. of phenylephrine hydrochloride and 4 mg. of chlorpheniramine maleate.)

DOW **THE DOW CHEMICAL COMPANY** Rx Pharmaceuticals Indianapolis



Owner Breaks Arm When Yacht Runs Agroun

Schuyler, Oct. 31. Harry Waters of Covesville incurred a fractured arm ... tially capsized. The fire depart... had to rescue Waters by small ... Damage to the yacht is estimat...

Hasn't the skipper had enough excitement for one day?

For the patient who has been through an accident, the worry and anxiety following the mishap may actually heighten the perception of pain. This is why there's a classic ¼ grain *sedative* dose of phenobarbital in Phenaphen with Codeine—to take the nervous "edge" off, so the rest of the formula can control the pain more effectively.

A.H. Robins Company, Richmond, Va. 23220 A·H·ROBINS

Phenaphen® with Codeine

Phenaphen with Codeine Nos. 2, 3, or 4 contains: Phenobarbital (¼ gr.), 16.2 mg. (warning: may be habit forming); Aspirin (2½ gr.), 162.0 mg.; Phenacetin (3 gr.), 194.0 mg.; Hyoscyamine sulfate, 0.031 mg.; Codeine Phosphate, ¼ gr. (No. 2), ½ gr. (No. 3), or 1 gr. (No. 4) (warning: may be habit forming).

The compound analgesic that calms instead of caffeinates

Indications: Phenaphen with Codeine provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon, although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.



The AMBAR SCRAPBOOK of

Obesity Oddities

FACT & LEGEND

IF THEY FIT.. THEY'RE FREE!

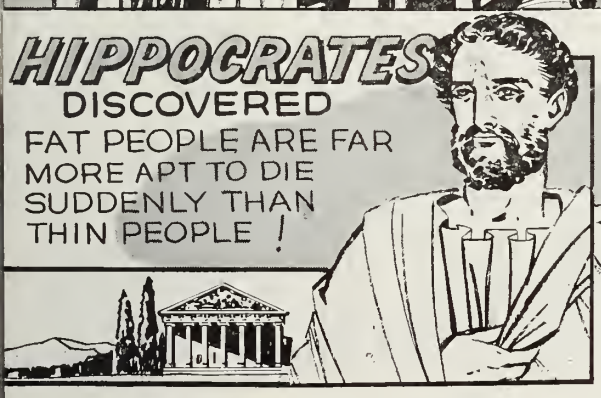
LEVI STRAUSS & CO. WILL GIVE A FREE PAIR OF LEVI'S TO ANYONE WHO MEASURES OUT TO A 76 INCH WAIST!

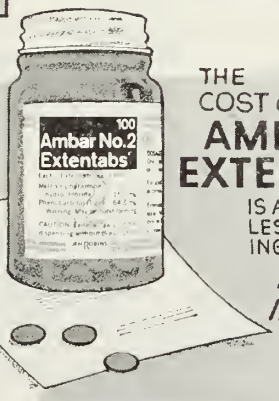


ROMANS DRINKING TO A LADY'S HEALTH, QUAFFED ONE CUP OF WINE FOR EVERY LETTER OF HER NAME!



HIPPOCRATES DISCOVERED FAT PEOPLE ARE FAR MORE APT TO DIE SUDDENLY THAN THIN PEOPLE !







THE COST OF **AMBAR EXTENTABS** IS APPROXIMATELY 10% TO 40% LESS THAN THAT OF OTHER LEADING APPETITE SUPPRESSANTS

AN IMPORTANT FACTOR IN LONG TERM THERAPY

Control food and mood all day long with a single morning dose

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

A. H. ROBINS COMPANY
RICHMOND, VA. 23220

A·H·ROBINS

One Ambar Extentab before breakfast can help control most patients' appetites for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety . . . helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the will power during periods of dieting.

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

Also available: Ambar #1 Extentabs® — methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

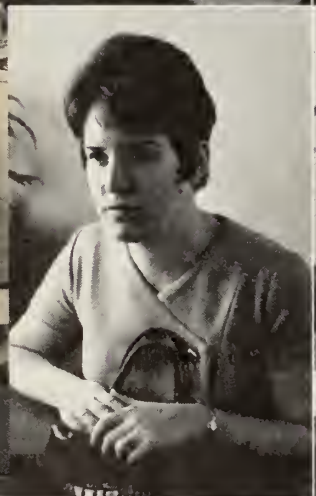


Not just the tough cases...

Depend on Candeptin® (candicidin) as the agent of first choice in all Candida cases.










Symptoms subside in 48 to 72 hours!

Itching, burning, discharge, and malodor disappear rapidly... patient's embarrassment, too.

Avoids the disappointment of "the cure that didn't take."

CANDEPTIN is "cidal" as well as "static," it is 100 times more potent *in vitro* than nystatin,[2] and it has achieved culture-confirmed cure rates of 90% and more[3] (even in notoriously difficult-to-treat pregnant patients)![1,3,4]

And two weeks does it.

Usually, CANDEPTIN cures in a single 14-day course of therapy.[3]

the fortnight fungicide

Candeptin®

candicidin

Vaginal Tablets/Ointment

Formula: CANDEPTIN Vaginal Ointment contains a dispersion of candicidin powder equivalent to 0.6 mg. per gm. or 0.06% candicidin activity in U.S.P. petrolatum. 3 mg. of candicidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain candicidin powder equivalent to 3 mg. (0.3%) candicidin activity dispersed in starch, lactose and magnesium stearate.

Indications: Vaginal moniliasis due to *Candida albicans* and other Candida species.

Contraindications: Patient sensitivity to any of the components. During pregnancy manual tablet insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

Caution: Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment or Vaginal Tablets have been extremely rare. To avoid reinfection, it is recommended that the patient refrain from sexual intercourse during treatment or the husband wear a condom.

Dosage: One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet is inserted high in the vagina, twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.

Dosage forms: CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil, with inserter—enough for a full course of treatment. Store under refrigeration.

Federal law prohibits dispensing without prescription. CANDEPTIN is a registered trade-mark of Julius Schmid, Inc.

References: 1. Olsen, J. R.: Journal-Lancet *85*:287 (July) 1965. 2. Lechevalier, H.: Antibiotics Annual 1959-1960, New York, Antibiotica, Inc., 1960, pp. 614-618. 3. Giorlando, S. W., Torres, J. F., and Muscillo, G.: Am. J. Obst. & Gynec. *90*:370 (Oct. 1) 1964. 4. Friedel, H. J.: Maryland M. J. *15*:36 (Feb.) 1966.

Julius Schmid Pharmaceuticals

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Ec-
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Dicarbosil®
ANTACID

Your ulcer patients and others will appreciate it. Specify DICARBOSIL 144's—144 tablets in 12 rolls.

ARCH LABORATORIES
319 South Fourth Street, St. Louis, Missouri 63102

Can one prescription do the work of two?



Yes, Kolantyl®.

Kolantyl Gel/Wafers contain antacids, and Bentyl® (dicyclomine hydrochloride) too.

Merrell

The Wm. S. Merrell Company
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

9-1243

(0715)

vacation in
a vial:
the spasm
reactors
in your practice
deserve



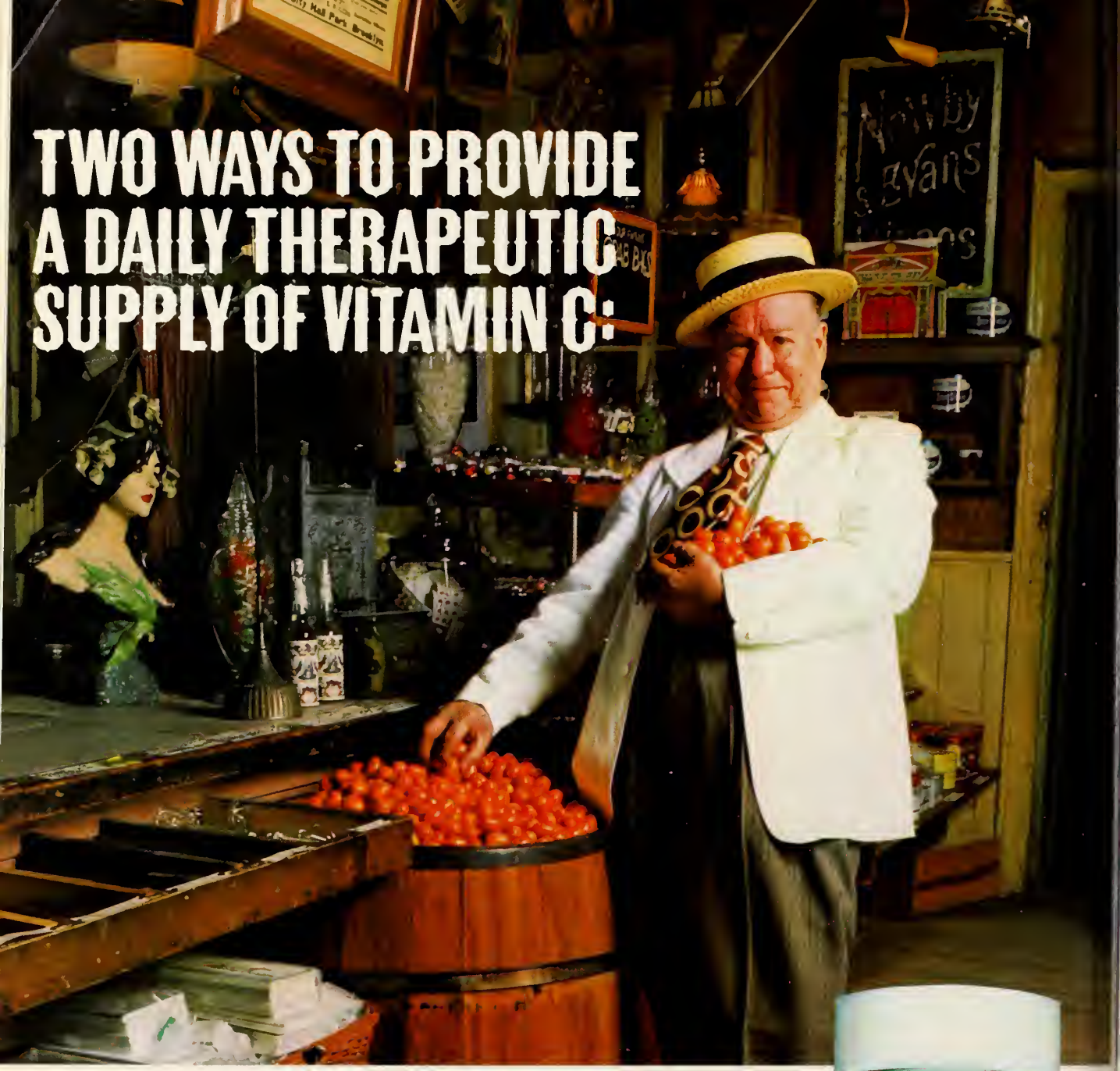
"the Donnatal® Effect"

	each tablet, capsule or 5 cc. of elixir (23% alcohol)	each Donnatal No. 2	each Extentab®
hyoscyamine sulfate	0.1037 mg.	0.1037 mg.	0.3111 mg.
atropine sulfate	0.0194 mg.	0.0194 mg.	0.0582 mg.
hyoscine hydrobromide	0.0065 mg.	0.0065 mg.	0.0195 mg.
phenobarbital	(¼ gr.) 16.2 mg.	(½ gr.) 32.4 mg.	(¾ gr.) 48.6 mg.
(Warning: may be habit forming)			

Brief Summary. Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Administer with caution to patients with incipient glaucoma or urinary bladder neck obstruction. Contraindicated in acute glaucoma, advanced renal or hepatic disease or a hypersensitivity to any of the ingredients.

A. H. ROBINS COMPANY, RICHMOND, VIRGINIA 23220

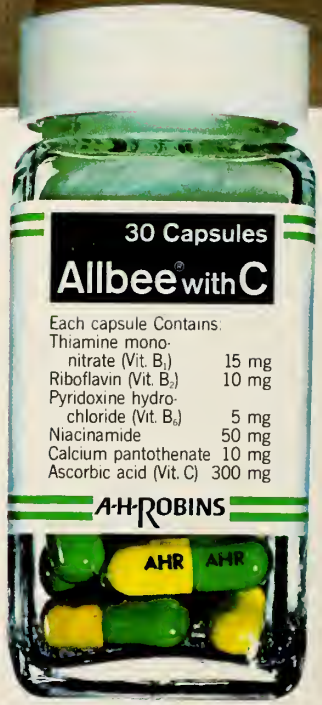
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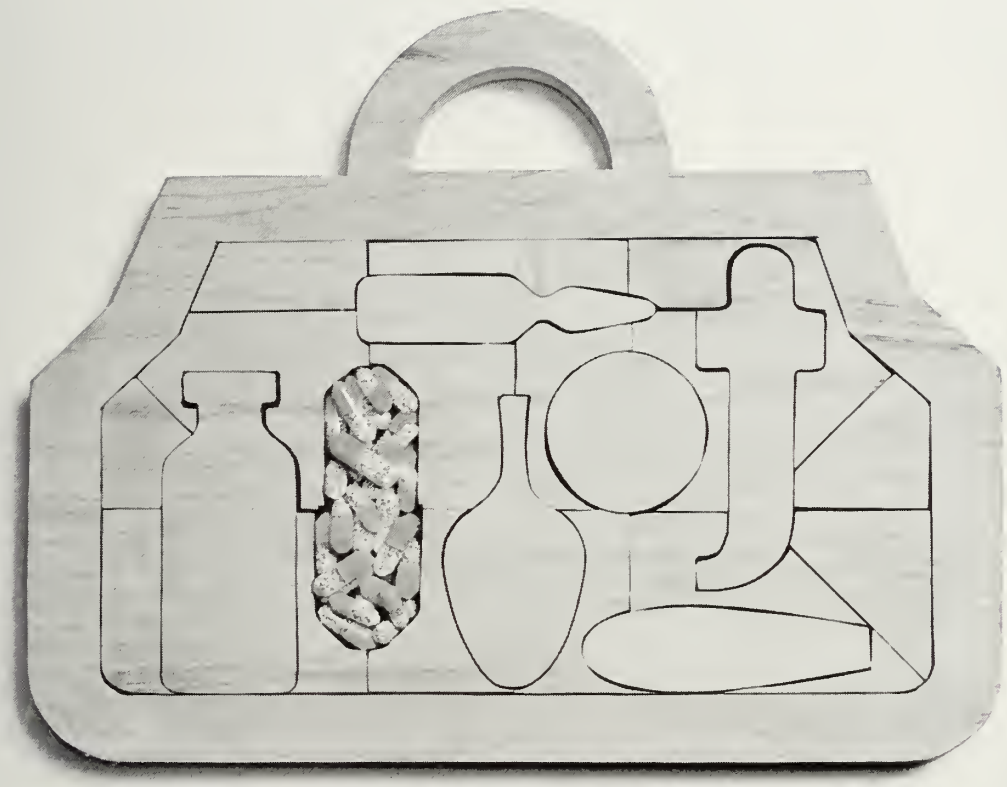


50 KUMQUATS OR ONE ALLBEE® WITH C

Your patient would have to eat 1,500 kumquats a month, about 50 a day, to get as much Vitamin C as is contained in just one bottle of 30 Allbee with C capsules (taken one capsule daily). Allbee with C is a lot easier to come by too. Unlike kumquats, it's always in season. In addition, each capsule provides full therapeutic amounts of the B-complex vitamins. The handy bottle of 30 gives your patient a month's supply at a very reasonable price. Economy size of 100 also available. At pharmacies on your prescription or recommendation.

A. H. Robins Company, Richmond, Va. 23220





One of seven dosage forms

Thorazine®

brand of chlorpromazine HCl

Spansule®

brand of sustained release capsules



Available in 30 mg., 75 mg., 150 mg., 200 mg. and 300 mg. strengths.

Smith Kline & French Laboratories
Philadelphia, Pa. 19101



When disease is ruled out and psychic tension is implicated

Valium® (diazepam) helps relax the patient and relieve his somatic symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Division of Hoffmann-La Roche Inc.
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The Journal of The SOUTH CAROLINA Medical Association

JOHN LOCKE

WILLIAM SALMON

FOLIE COMMUNIQUÉE

PLANTATION MEDICINE

MEDICINE DURING THE CONFEDERACY

ORGANIZED MEDICINE IN CHARLESTON

Historical Number

OLUME 66 MAY, 1970 NUMBER 5



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An easy, accurate test-paper method for the qualitative and semiquantitative determination of urine glucose

Additional information available upon request.

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The girth control pill



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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

Contributions of Original Articles

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

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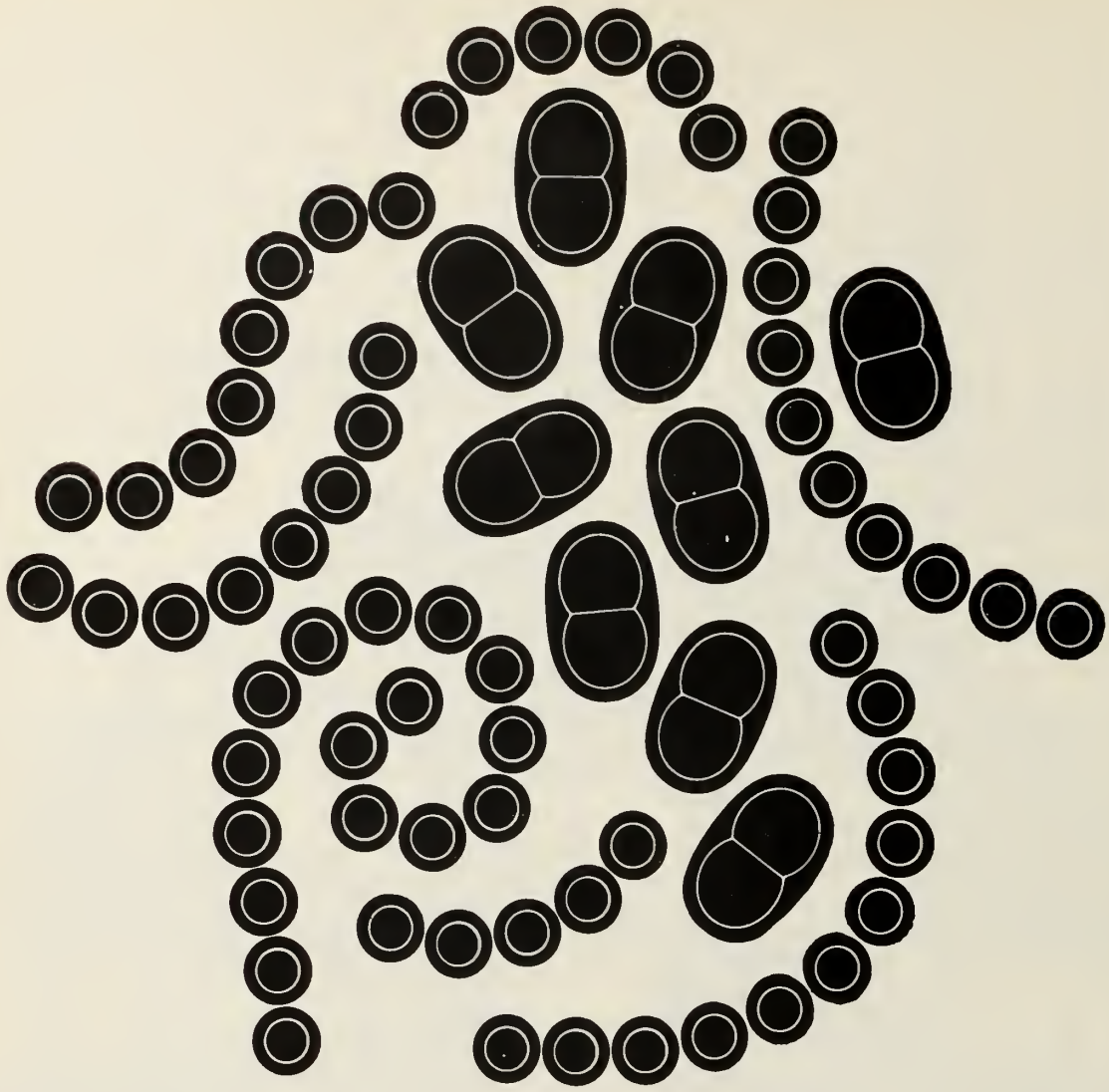
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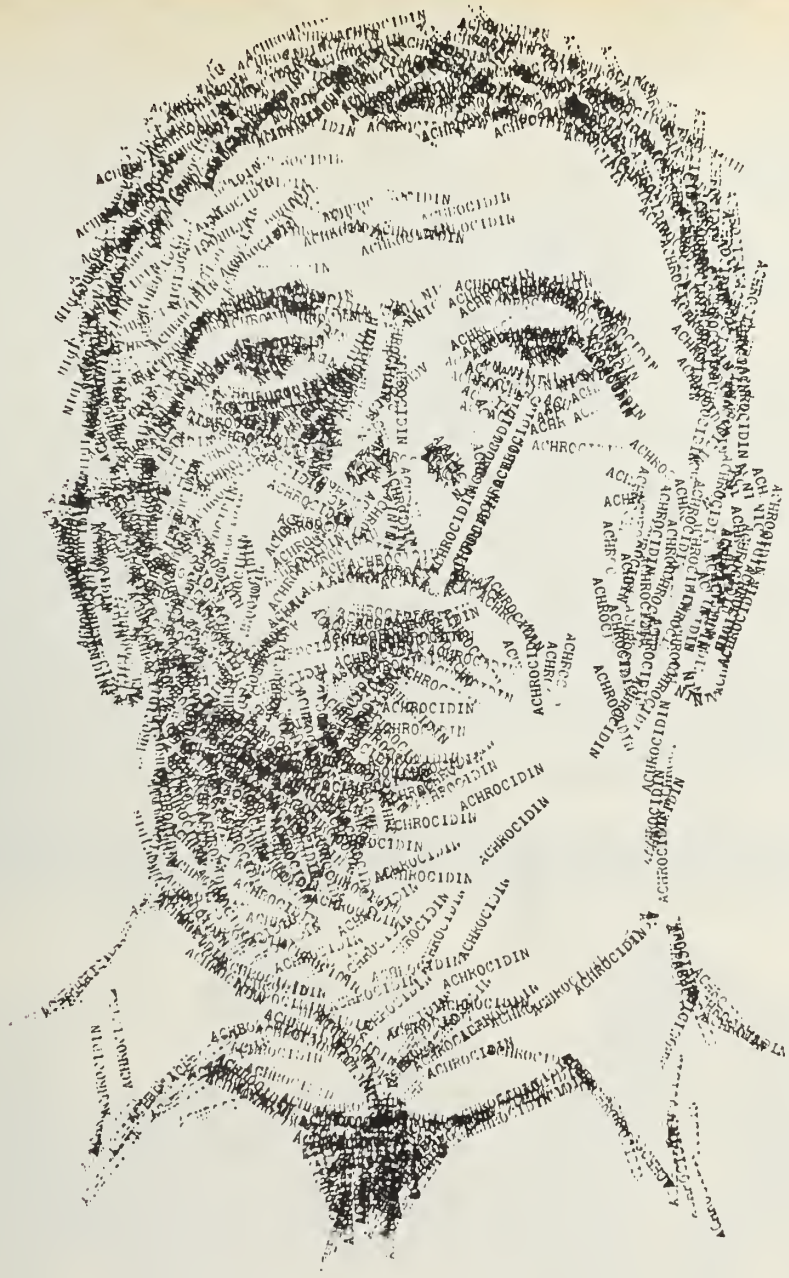
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Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

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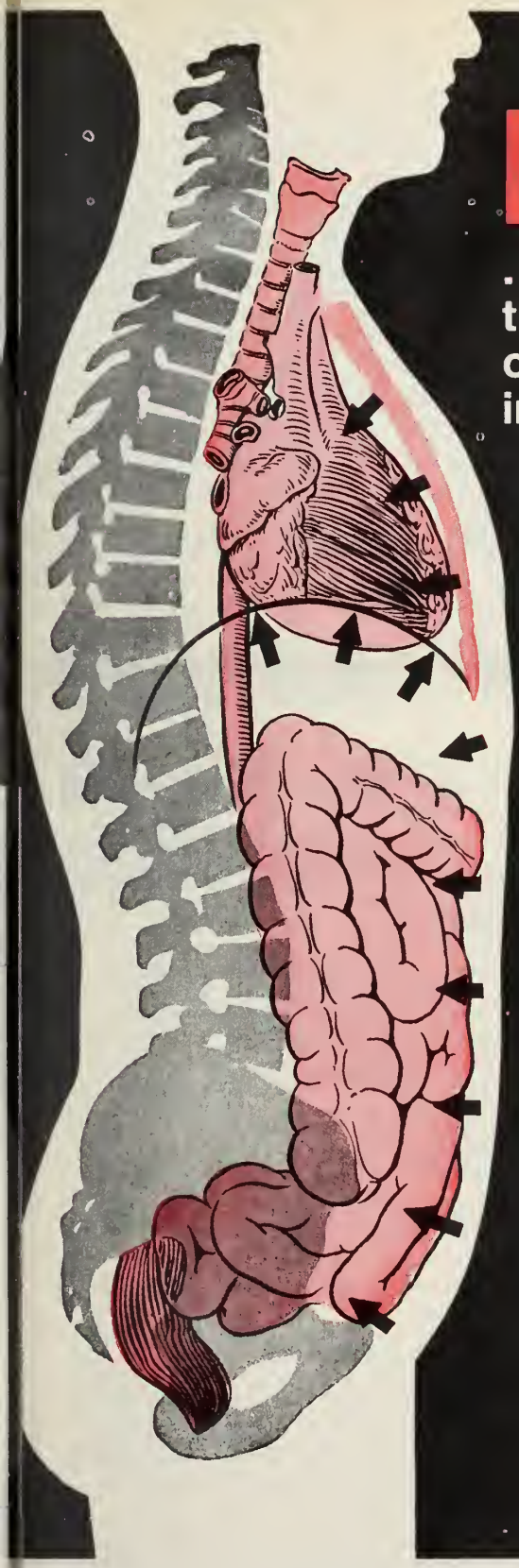
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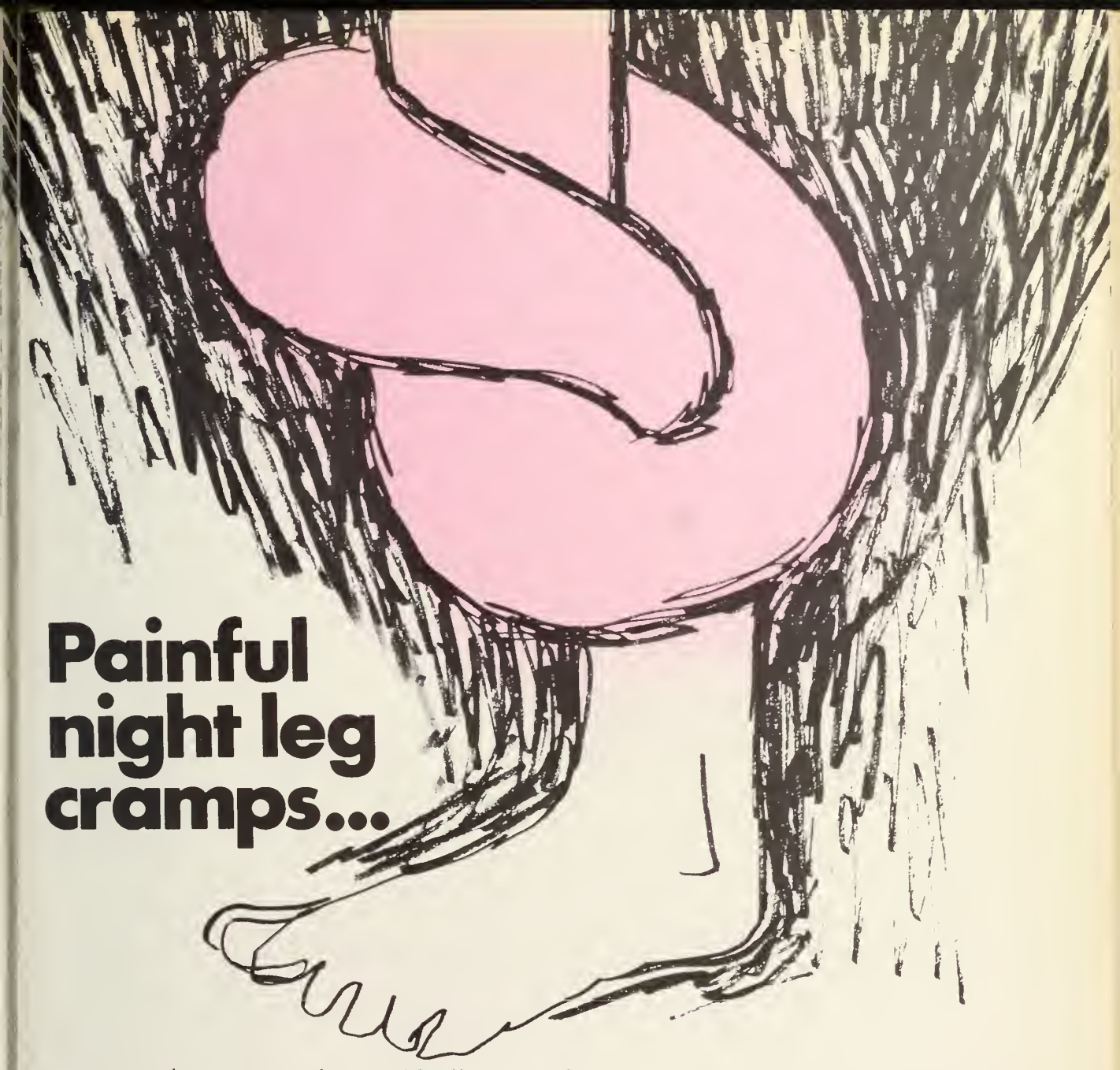
Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose-related. Transient, reversible, nephrogenic diabetes insipidus with excessive thirst and polyuria (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: One tablet b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.



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References: 1. Gardner, H. L.: J. Miss. M.A. 8:529, 1967. 2. Parter, P. S., and Lyle, J. S.: Arch. Dermat. 93:402, 1966. 3. Walsh, H.; Hildebrandt, R. J., and Prystawsky, H.: Am. J. Obst. & Gynec. 93:904, 1965. 4. Vaginitis and the Pill: J.A.M.A. 196:731, 1966. 5. Guerriera, W. F.: Sauth. M.J. 56:390, 1963. 6. Seelig, M. S.: Am. J. Med. 40:887, 1966. 7. Ta-day's Drugs, New Yark, Grune & Strattan, Inc., 1965, p. 316. 8. Gray, L. A., and Bornes, M. L.: Am. J. Obst. & Gynec. 92:125, 1965. 9. Salerna, L. J.; Ortiz, G., and Turkel, V.: Vaginitis: A Diagnostic and Therapeutic Appraach, Scientific Exhibit, presented at the 115th Annual A.M.A. Canventian, Chicaga, Illinais, June 1966. 10. Walsh, J. C.; Sheffery, J. B., and Wilsan, T. A.: Med. Ann. D.C. 37:358, 1968. 11. Nugent, F. B., and Myers, J. E.: Pennsylvania Med. 69:44, 1966.

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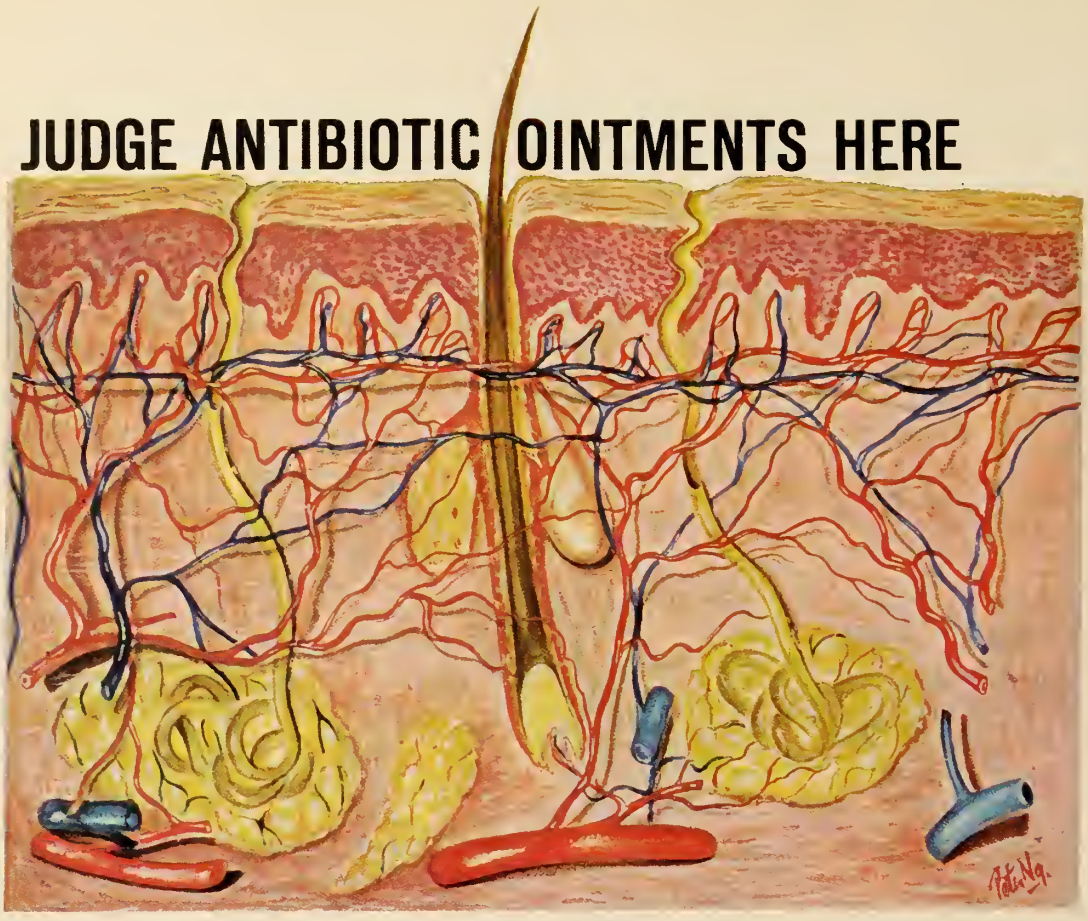
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The Journal
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VOLUME 66 MAY, 1970 NUMBER 5

JOHN LOCKE, HOUSEHOLD PHYSICIAN AND PERSONAL SECRETARY TO ASHLEY COOPER*

WILLIAM WESTON, III, M.D.
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Department of Pediatrics

John Locke, 17th Century English Philosopher and Political Theorist, had such an impact on the thinking of men in his day that he has sometimes been called "the intellectual ruler of the eighteenth century". Recently, it has been recognized that an important basis for his philosophy was the fact that Locke was a careful, observant practitioner of medicine. His medical talents have particular historical significance in this year of South Carolina's Tricentennial celebration because of Locke's remarkable relationship with Lord Ashley Cooper, "the most versatile and brilliant" of the proprietors who sponsored the first settlement in Charles Town. The fascinating medical condition that accounted for the meeting between Locke and Ashley may have considerable appeal to present day practitioners in South Carolina. The fact that John Locke framed "the fundamental constitutions of Carolina" should be of interest to those of us who are stimulated by South Carolina history.

*Read at the Robert Wilson Medical History Club, March 6, 1969.

17th Century Physician

Garrison's *History of Medicine* informs us that the 17th century was an age of distinctive scientific endeavor and intense individualism. We recall that William Harvey's theories on circulation were to revolutionize previous knowledge about the human body. The 17th century was also known as the great age of specialized anatomic research, which included the first injection of blood vessels and the introduction of the microscope with all of its attendant benefits. In a more clinical vein, Thomas Sydenham revived the Hippocratic methods of observation and experience, and in so doing, established himself as the father of modern day medicine.

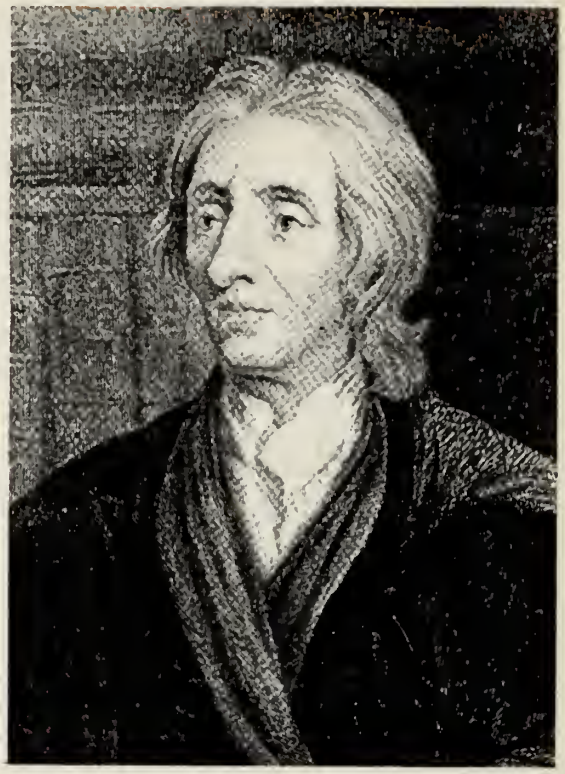
London was a city of 500,000 people. The majority of its citizens were quite familiar with the dreaded four horsemen: conquest, slaughter, dearth, and death. Charlatans were abundant and divine healing was still performed. It is estimated that Charles II touched over 100,000 people in an attempt to heal them of scrofula. He would say "I touch you and God heals you." The individual was given a

silver coin and if he did not recover, it was because he did not have enough faith;

John Locke was born in 1632. He was educated at the Westminister School and Christ Church College, Oxford. Shortly after he matriculated at Oxford in 1652, he developed an interest in apothecary practices which he retained for the remainder of his life. Although Locke participated in medical learning, over twenty years elapsed before he received a Bachelor of Medicine degree in 1674. He never attempted to qualify for the Doctor of Medicine degree. For over 150 years practically no mention was made of the fact that John Locke was a student of medicine. In 1876 Fox Bourne's book, *The Life of John Locke*,[1] called attention to this fact, but it was not until 1900, when Sir William Osler published a paper entitled "John Locke as a Physician",[2] that any real interest developed in his association with medicine. More recently (1947) the Bodleian Library at Oxford acquired the Lovelace Collection of Locke's papers which established renewed interest in his role as a physician. From these papers we learn that Locke's interest ranged from meteorology to preventive and social medicine, including vital statistics. Although he never became an active practitioner of medicine, the clinical cases that he described indicate a deep conviction that it is the responsibility of any physician to cure the sick, even though one might not understand the essence or ultimate cause of a disease process. It is generally agreed that one of the finest examples of Locke's thinking as a medical advisor and clinical recorder was in his role as Ashley Cooper's household physician.

Ashley Cooper's Household Physician

Ashley Cooper, 1621-1683, the First Earl of Shaftesbury, was a controversial 17th century statesman and imperialist. Many of his political and religious ideas were advanced for his time (e.g. he reacted to excesses of extremists during the Commonwealth period, opposed absolutism of Royalty, and initiated efforts



John Locke*

to establish greater religious tolerance). The methods that he employed, in implementing them, were very much in keeping with the tumultous period of changing ruling powers and spiritual beliefs. That Lord Ashley changed allegiances to remain on the winning side in several historical circumstances is apparently the basis for his critics accusations that he was "unfix'd in principles", while in actuality, he may have been more successful in doing what others wished they could do. Perhaps his most lasting contribution was the authorship of the Habeas Corpus Act.

At the time of their initial meeting in 1666, neither John Locke nor Ashley Cooper had made any significant contributions to society. Locke was 34 years old and Ashley was 45 years old. The two gentlemen met in Oxford where Ashley Cooper sought the Spa waters in

*Dewhurst, K. A.: Sydenham's original treatise on small pox with a preface and dedication to the Earl of Shaftsbury by John Locke, Med. History 3: 378-302, 1959.

hopes of relieving the discomfort that was associated with his recurring jaundice. During the previous ten years, he had experienced periodic episodes of severe pains in his right side in conjunction with a deep redness of the skin and a burning fever. It was a chance acquaintance, because it is believed that Locke, who was assisting a Dr. Thomas at the time, was sent to apologize for the failure of a messenger to deliver the Spa water. Locke and Ashley Cooper shared a "community of ideas" which led to a fast and permanent friendship. The following year, Locke was installed as the personal physician at the Ashley London residence, Exeter House.

In becoming a member of Ashley Cooper's household, Locke was introduced to Thomas Sydenham who, as previously mentioned, was involved with reviving the Hippocratic method of observation and experience. As a result, Locke's interest changed rather abruptly from iatrochemistry to observation at the bedside, where his emphasis on description and forthright recording of clinical material was developed.

In May of 1668, Lord Ashley was suddenly seized with severe vomiting. Purgatives, anti-icterics and chalybeates were administered without benefit. Following a bout of acute abdominal pain, a soft tumor about the size of an ostrich egg sprang up below the ensiform cartilage. In his role as primary physician, Locke was faced with two critical decisions: the first of these was whether to incise and drain the cystic mass. Locke carefully obtained opinions in the form of consultations from the leading medical minds of the time. A month transpired before a barber-surgeon was engaged to open the abdomen. His cauterization yielded a "copious drainage of purulent matter containing many bags and skins". Through the incision, Locke drained the abcess with a silver tube of his own design, treating the wound three times a day for a period of six weeks. Over two hundred years later, Sir William Osler commented "I do not remember in 17th century literature a more accurately reported case. It is one of the few instances of operation on a hydatid cyst".[3] The second decision involved the advisibility of removing the tube. Locke consulted his medical friends again. The majority felt that it would be unwise, so the tube remained. Lord Ashley was restored to good health and for the remainder of his life he was unique among men in possessing the famous tube, initially silver and later replaced with a gold one. The wits of the day found the tube a subject for great mirth. For example, parliamentarians in the opposing party christened him "Tapski" as though he were a keg of beer with a tap. English literature contains several references to the famous tube. John Dryden, one of Ashley's bitterest enemies, offered this account in one of his plays, "Bid Lord Shaftesbury Have A Care of His Spigot: If He Is Tapt All The Plot Will Run Out."

Following the successful operation, Ashley Cooper conferred additional responsibilities upon his household physician. It is believed that Locke was charged with selecting a wife for Ashley's weak and ineffectual son. When this had been accomplished, Locke provided midwifery care during her subsequent pregnancy and delivery. An excellent summary of his thoughts on the subject appears in the Lovelace Collection of papers.

Another role which Locke played within the family was that of educational advisor for Ashley's beloved grandson, who was born in 1671. Lord Ashley frequently called upon Locke for advice during the boy's childhood, even after Locke left the household because of ill health in 1675. Locke's theories on child-rearing have led some educators to recognize his efforts as "The discovery of childhood", the reason being that prior to this time children were pictured and treated as either toys, strange animal, or small grownups.[4] Two explanations for this attitude were the facts that their life expectancy was so unpredictable and that the majority of them were illiterate.

One can get a feeling of the quality of advice that Locke offered Ashley by reading his essay "Some Thoughts Concerning Education". It begins with the statement "A sound mind in a sound body is a short, but full description of a happy state in this world" - a most provacative remark in view of the fact that it rings true 300 years later. Locke places the challenge of maintaining good health squarely on the shoulders of the parents. Several examples will help us appreciate this stance. His advice about regulation of body temperature reflects his interest in meteorology and begins: "The first thing to be taken care of is that children be not too warmly clad or covered, winter or summer." The practicality of the matter is that present day practitioners are often confronted with the same question or with a problem stemming from overdressing. One might question whether the practice of taking an early morning cold shower arises from Locke's advice to wash a child's feet every day in cold water. How intuitive it was for him to remark, "Here, I fear, I shall have the mistress and maids against me."

Locke's thoughts on the subject of bowel regularity have persisted until the present time. He believed that "going to stool regularly" had a great influence on health. Locke suggests that a child "be set upon the stool" after breakfast so that he will respond to nature's calling and thereby prevent habitual costiveness or constipation. How similar his advice is to that one might hear from the practitioner today! "Once in four and twenty hours, I think is enough; and nobody, I guess, will think it too much. And by this means it is to be obtained without physic, which commonly proves very ineffectual in the cure of a settled and habitual costiveness."

Locke had noteworthy ideas about the familiarity of parents with their children. He expressed an intense belief in the importance of sharing and allowing a child to develop a personal interest in the affairs of the family. He recognized a need for friendship at a mature age, but felt that at the same time the son must be patient until experience has prepared him for the privileges that accompany it.

Locke, Cooper and the Carolinas

During the year following his operation, Ashley Cooper directed considerable attention toward establishing a settlement in the Carolinas. Hailey suggests that the reason for this effort was a lifelong interest in colonization rather than for financial or political gains. Lord Ashley, at the age of 25 years, had purchased a plantation in Barbados. In addition, he had vested interest in the West Indies, the Massachusetts Bay and the Royal African Companies.

The original grant to the Carolinas had been given to Sir Robert Heath in 1619. However, there had been no settlers. In March 1693, a new charter was granted by Charles II to eight proprietors who were given the right to make appointments to erect manors as they saw fit, to grant titles (as long as they did not conflict with English titles), to impose martial law, to export goods to England, and to impose taxes on imports to the Carolinas. The efforts to establish a settlement had been meager until Ashley Cooper proposed that the remaining six proprietors each contribute 500 pounds in addition to the 75 pounds already invested. The availability of his gifted personal secretary, John Locke, may have been a significant factor in this decision.

On June 21, 1670, three months after the settlement in Charles Towne, the fundamental constitutions of Carolina appeared. There were several significant features about the constitutions:

1. They provided for greater freedom of worship than any other colony had previously enjoyed. Specifically the constitutions stated that any seven or more persons agreeing in any religion would be officially recognized provided they did not abuse people who thought differently.
2. They forbade the molesting of Indians and encouraged settlers to deal with them in a christian manner.

3. They stated that Negro slaves could belong to the church of their choice but it stated categorically that any prospective planter would have absolute authority over his slave.

In essence, the fundamental constitutions of Carolina were a prospectus outlining a society that would be created in the hope that it would appeal to potential immigrants. In retrospect, it accomplished this, and although much of the organizational content was abandoned by 1693, it should be credited with making a valuable contribution to the establishment of religious and political freedom in the Carolinas.

Conclusion

John Locke died on December 28, 1704 from complications arising from chronic lung disease. During his last decade, he concentrated on expanding his theological and philosophical ideas. However, records reveal that he maintained a limited medical practice in a small village in Essex. There can be no question that his medical experiences had a significant influence upon his philosophy. From the latter, we can extract some principles that may have application in the 20th century. Man must concentrate his efforts on what is useful in life--the individual is precious--the State is the agent rather than the master of the individual and opinion, even announced opinion, has its value and should be heard.

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Treatment of Parkinson's Disease With L-Dopa Combined With a Decarboxylase Inhibitor—J. Siegfried H. W. Biegler, Deutch Med Wschr 94:2678-2681 (Dec 26) 1969.

One hundred patients with Parkinson's disease were treated with l-dopa plus a decarboxylase inhibitor. Special clinical and psychological-physiological tests were performed to quantify the effect of the drugs on the akinesia. A double-blind trial with these drugs in a group of 20 patients showed doses of l-dopa give a good therapeutic effect and fewer side effects when combined with a decarboxylase inhibitor. The best affected sign of the disease was hypokinesia.

PLANTATION MEDICINE

H. RAWLING PRATT-THOMAS, M.D.
Charleston, S. C.

Ophir, Pooshee, Woodboo, Goshen, Sarrazin, Wantoot..... What visions may be conjured up by savoring these names. Whence did they come and whither did they go? Sadly, they are gone with the wind and the water. They were the plantations of the descendents of French Huguenots who sought asylum in Carolina following the Revocation of the Edict of Nantes. These and many more of both French and English descendency are now inundated by the waters of Lake Moultrie.[1]

In 1689, a colony of French Protestants, numbering 180 families, emigrated to Carolina and procured lands chiefly on the south side of the Santee River in St. James Parish where they founded the town of Jamestown.[2] Some ten families settled in St. Johns Parish which was contiguous with St. James. In 1740 St. James Parish was divided and the St. Stephens district created.[3] Because of the circumstances of settlement of these areas upper and lower St. James were known as French and English Santee respectively. Eventually intermarriage and resettlement obliterated such delineations. These French and English colonists were primarily planters engaged in tilling the rich alluvial soil of the Santee River basin.

Their cultivation of the land and manipulations of its flora resulted in changes which influenced the medical, social and geographic history of this region, eventually resulting in the establishment of new communities. Samuel Dubose[4] comments on the reason for this change; "The upper country being then but partially cleared and cultivated; the greater part of its surface was covered with leaves, the limbs and trunks of decaying trees, and various other impediments to the quick discharge of the rains which fall upon it, into the creeks and ravines leading into the river. Consequently, much of the water was absorbed by the earth, or evaporated before it could be received into its channels, and even when there so many obstacles yet awaited its progress that heavy contributions were still levied upon it. The river too had time to extend along its course the first influx of water before that from more remote tributory sources would reach it". Clearing of the land and removal of the vegetation by the extensive cultivation of indigo, rice and corn in these regions destroyed this absorptive and retarding cushion of vegetation so that when the rains came there was sudden discharge of water into the Santee and its tributaries with resultant freshets or 'high rises'."

These freshets became more numerous following the Revolutionary War and persisted for a period of some twelve years and then diminished. Although clearing and cultivation of the land in both the up and low- country probably contributed to this condition, there were probably other factors such as extremely wet or warm seasons in the up-country with resultant flooding of the lower plains.[3]

This disquieting turn of events together with the prevalence of fever forced these

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Presented originally to the Robert Wilson Medical History Club, Charleston, N. C.

planters to seek more healthful and economically sound environments either by resettlement or establishment of summer residences elsewhere.

Captain James Sinkler was given credit for the observation that a pine land residence, but a short distance from the swamp had a salubrious effect. In June 1793 he and his family retreated to the higher pinelands and in November returned to his plantation, having passed the summer free of the pestilential fevers. This successful experiment was immediately imitated and thus Pineville was first settled in 1794 by names well known in the Carolina low-country, namely Captain John Palmer, Peter Gaillard, John Cordes, Phillip, Samuel, and Peter Porcher.

Professor Frederick A. Porcher describes the New Community[5] "Pineville is situated on a low-flat ridge thickly covered with pines and dotted with small ponds and savannahs. It lies two miles south of Santee swamp and five miles from the river. Though the principal growth is pine it is not what we call a pine barren, for the redoak and hickory which flourish on a soil under which the clay lies at no great depth indicates a considerable degree of natural fertility. At the period of its greatest prosperity the village contained about 60 substantial and well built houses, each situated in a lot of from one to two acres in area. The pine trees were religiously preserved, not only within the lots but without. Those which were unenclosed, being the property of the public, were protected by a fine of $5 imposed on any person who should cut down or by any wanton injury threaten the life of a tree. An opinion generally prevails that the village lost its helpfulness in consequence of the violation of these regulations by the people who cut down the trees and cultivated gardens. Never was opinion more erroneous. In all of the original lots traces of cultivation may be seen. It was not then considered dangerous to indulge in the luxury of a garden".

Eventually, however, all gardens and adjacent farms were abandoned "to insure the healthfulness of the place". This was undoubtebly a good move. Thick low-lying vegetation supplied a splendid breeding and hiding place for mosquitoes and although their role was unsuspected, the planters intuitively realized that clear open pineland was more healthy than woods cluttered with other vegetation.

Robert Wilson, M.D., D.D. graduated from the Medical College of the State of South Carolina in 1859. After serving as a surgeon in the Confederate Army, he became an Episcopal minister. He was the author of a number of books outside of the sphere of medicine. Good examples of his other interests are these excerpts from his vivid description of a pineland village.[6] "All along the ridge of pineland are found the little summer villages into the life of which I propose to give you an insight in these pages. In fact, there are scarcely villages, hamlets rather, composed usually of 10 to 50 houses scattered about with their out buildings among the pine trees. It is a strange reversal of social laws when the peasantry live upon the manor and the lords of the land group themselves in the hamlets, but so it is. These villages are perfectly unique, there are no streets, only broad roads meandering uncertainly among the enclosures. The houses are commodious, one or two stories high, built in the plainest style by plantation mechanics and affording a strange contrast to the handsome winter dwellings of the owners. The most striking feature is the long, broad piazza with its benches and its open chairs. No gardens are allowed, as cultivation invariably makes the place unhealthy. The yards are enclosed and everything looks fresh with a constant white-washing. The smaller villages are literally deserted during winter. You ride through the silent ghostly array of white-washed houses and fences. Every door and gate and window shutter nailed fast and see not a sign of life except an occasional squirrel, if the day be pleasant. A dreary place as one can imagine is a pineland in the winter. The dark closed-up houses frown at you as if you were

responsible for their desolation and shed scaly tears of old white-wash as the rough wind teases them by blowing the brown pine leaves against their sides. The wind roars and struggles through the huge creaking branches overhead and a strange clicking, gliding, rustling sound or rather ghost of a sound comes to your ears which you learn is produced by the falling and stirring of the dried pine needles. At home the cheerfulness of your sitting room has its serious drawbacks for the house is not built for cold weather and the roaring lightwood fire scarcely compensates for the broad cracks and seams in the broad doors and the loose openness of the badly fitted windows. Take advice of one who has tried it and don't live in pineland during winter if you can help it".

The community flourished and in a few years it became the summer residence of the planters of St. Stephens Parish and of those of upper and middle St. Johns. It was not to be a permanent haven, however, for the debilitating and often fatal fever was to return as we shall see. As David Ramsay[3] succinctly remarks, "Fevers are the proper endemics of Carolina, and occur oftener than any, probably than all other diseases".

Frederick A. Porcher graphically describes the malady, "The bane of this parish like that of every portion of America south and west of the Hudson River was, and is the intermittent fever of the autumnal months. This, when of frequent occurrence, becomes habitual, is attended with enlargement of the spleen, a tendency to dropsy and a general prostration of the moral and intellectual, as well as of the physical man. This disorder was perhaps not more malignant in St. Stephens than elsewhere but nature had kindly furnished an asylum wherein the ague strickened patient might breathe in safety, recover from his malady, and enjoy the blessing of health, both of mind and of body. This asylum is the Pineland. Here is enjoyed an exemption from intermittent fever, but this exemption is purchased at a price which is often fatal. In proportion to the salubrity of the climate is the danger attending exposure to one less healthful and the price of exposure is not merely a simple and teasing intermittent, but a fever, sharp, severe, dangerous and frequently fatal".[5]

In other words, if one planned to spend the summer in the pinelands, one had better make a committment which precluded any visitation to the plantation. If one was imprudent enough to return to see "how things were on the farm" the results might be disastrous.

Furthermore, partial immunity or tolerance to malaria was referred to, if only by indirection. Accounts of plantation owners who lived out their days on their lands without respite in the pinelands are described. In addition, "We have seen overseers living year after year in the rice fields of Cooper River, in the interrupted enjoyment of perfect health. These instances are too common to be marked as exceptions. We have generally observed that those overseers are least sickly who are required to spend their summers on the plantation".[5]

In the autumn of 1833 the first case of fever occurred which finally drove the people from Pineville. Frederick A. Porcher describes the initial case: "A gentleman, we believe it was Mr. John Ravenel, was sick. The season was uncommonly dry and swamps exhaled offensive odors. His daily rides led him by one of these and he was supposed to have been poisoned by its exhalations, but he was not alarmingly ill. His fever appeared to intermit and men began to inquire whether fever and ague was to be one of the diseases of the village.

The insidious fever, after amusing his victim for some days and lulling his friends into a fatal sense of security suddenly seized him with a rigor so intense that neither the patient's strength could resist it nor mortal skill successfully oppose it, and before the hot fit could come on he was dead".

Carolinians blamed their fevers on a vague "miasma", a mysterious substance arising from decomposing vegetation and failed to identify the mosquito as a source of infection.[7] Frederick A. Porcher offered

an honest appraisal of the fever problem: "A pretty extensive observation has convinced us that we know absolutely nothing of the causes of the fever.....It is astonishing how frivolous are the causes which are sometimes gravely assigned and believed. Thus we remember that when the first case of yellow fever made its appearance in Charleson in 1839 it was said that the young man, its victim, had neglected to provide himself with a sufficient number of towels in going to the bath and was constantly obliged to spend some time in damp clothes.....And we could not but remember how when a school boy, we use to run two miles to MaHams millpond and no one ever dreamed of the luxury in the shape of a towel beyond our ordinary hankerchiefs. The truth is that diseases, fevers particularly, come from God, to what end we know not precisely, but a good one we may be certain. If there were no fevers provided for us, we would be deprived of one of the means of quitting this world and it is worse than useless to speculate upon the causes which in every case and we believe may say in any case, generate this disorder."

In the summer of 1834, the fever returned and among it's victims was Dr. John J. Couturier. He was a native of St. Stephens Parish, was educated at the Pineville Academy in which afterwards he served as an assistant teacher and succeeded to the practice of Dr. Macbride. Dr. James Macbride, "probably the most noted resident of Pineville", graduated from Yale, studied medicine, practiced in Pineville for a few years and then settled in Charleston, where he died of yellow fever in 1817 at the age of thirty-three. Ironically he wrote "On the Fevers of St. John's Parish, Berkeley", maladies to which he and his successor-in-practice succumbed.[1,8]

Ravages of the fever during the two following summers left the village almost totally deserted.

The planters looking for a new summer residence left Pineville with their families and the pineland villages of Eutawville and Pinopolis among others were settled. An interesting account of the building of the first two houses in Pinopolis by Frederick A. Porcher and Dr. Morton Waring in 1834 follows: "Waring and I had determined to build houses for ourselves in Pineland west of Biggins Swamp and about four miles south of Somerton (Dr. Porcher's plantation). A large body of this was owned by the MacBeths, Mr. Cain and by me and we had a reasonable assurance that nothing would be done or have a tendency to impair the supposed healthfulness of the place. My house was built of logs about 40 feet long in the north and south side and two pins at the ends so that the house when finished and roofed it had three rooms, one at each end about 15 x 15 x 20 feet and one between them 10 feet wide which made a very convenient dining room. By degrees the spaces between the logs were filled in. Doors and windows cut, a chimney built and a very unsightly house became quite comfortable, but I must say that I do not think it creditable to our civilizations that persons brought up as we should be satisfied with such houses even as temporary residencies. I dated for the sake of jest several letters 'Pinopolis' and this became the name of the Village.[9] City in the pines!"

A better comprehension of life in the South Carolina low- country a hundred and twenty-five years ago and a feeling of intimacy with that time and place may be gained from the uninhibited thoughts and expression contained in private diaries or personal correspondence between members of a family. Further insight into the ways of every day family living may be gleaned from yet another less personal, but none the less fundamental furnishing of that era, namely, the receipt or recipe books carefully maintained and guarded by the mistress of the household. My insight into the life during this period (1838-1853) has been supplied by access to such material in the possession of my wife. She is as confirmed a Charlestonian and Low-country woman as one of her forebears of several generations ago was

declared to be a "confirmed consumptive".

Peter Cordes Porcher was the son of Thomas Porcher and Elizabeth Sinkler Dubose. He was born on March 3, 1814, at Ophir, now submerged by the Santee-Cooper complex. We may gather from the names given to his plantations that Mr. Peter Porcher of Peru must have valued his holdings very highly as he settled one of his sons at Mexico, the other at Peru and a third at Ophir. Peter's father owned Ophir, and upon his death Peter managed the plantation for his mother. He was one of fourteen children who reached maturity, ten others having died in infancy. Gleanings of plantation life are gained from Peter's correspondence with the members of his family, particularly his mother.[10] The exchange of letters begin in 1836 when he had gone to Paris to complete his education as a doctor, his expenses being $900.00/annum. This was followed by correspondence from Knoxville, Tennessee in 1839 where he evidently began his experience in the practice of medicine and finally in 1840 in letters from Pinopolis and Ophir where he had returned to practice at his home on the plantation and in the pinelands. His comment concerning his medical education is an interesting one-- "I never took any real interest in medicine until I came here, for really our manner of teaching it in the United States is so much of quacks. You see so little of science in the profession that is quite trash and time lost, but here you have men who are really prodigies of learning, men who have grown old and blanched in the walks of wisdom". As a young medical student in Paris he also observes, "the French women are wonderful, French men are detestable and this after mature deliberation". In November 6, 1836 he inquires in a letter to his brother; "How is it that you have said nothing about the cholera. Here I was waiting anxiously for news and your letter does not even allude to it. As far as we can learn, there have been no cases but in Charleston and they are confined only to the Negroes. But by this time what progress may it not have made. I hate to think of it for if there is any country in the world fearfully prone to its ravages it must be our low-country plantations". This epidemic has been fully described by Waring where the toll came to 408 deaths, 69 white and 339 negroes. Some plantations were ravaged, but apparently those of St. Stephens and St. Johns were spared.

The solicitude of plantation owners for the slave is indicated in a letter from Peter's brother, Thomas who closes with the remark; "I am obliged to stop and go to "Goshen" to see a sick Negro child and as this letter must go before I return, I must conclude". Again in a letter to Peter from his sister in July 1843, "But jesting all aside, you really ought to have written a letter to Mother, she has been very uneasy about the whooping cough. She has heard that one night Brother Peter had been sent for to see little Negroes who were ill-- four of them. Was not this enough to worry her?" In a letter of October 6, 1849 to his mother in Winnsboro, Peter Porcher states: "We have had sickness enough to worry the patience of a jackass or Job but it has abated somewhat. That is, it has not averaged about five or six per day for some time past".

Although there were undoubtedly humanitarian feelings involved in this concern, one must also realize that there were monetary considerations.

In telling Peter of the purchase of an adjacent plantation and 48 slaves, Thomas Porcher remarks that he paid $513.00 each ($29,754.00) for the slaves. This at a time when the price of cotton had fallen and a neighboring plantation owner was said to have lost $230,000.00.

In July 1838 in a letter to Peter Porcher from his nephew Francis P. Porcher he states that "Aunt Martha and Uncle Dwight have had much sickness among their Negroes. Their nurse, Phyllis who Grandmother lent them died a few days ago with Typhus fever". A letter to Peter Porcher from his sister Isabella again touches upon the problem of Typhus fever. "The pinelands have been healthy, even Pineville so far. Mr. Dwight is not to leave

Smithville until the last of this month and I think he ventures much considering several of his neighbors have been ill with Typhus. There have been more cases of fever here than usual. Mrs. Miller is now very low with the fever. There have been three deaths but only one originated here".

The true nature of these fevers remains speculative. Clear differentiation between typhus and typhoid was not made at this time and general confusion of these two diseases probably persisted for about ten years beyond 1838.[7]

In January 1837 his niece in a long and newsy letter stated that, "the influenza has been prevailing extensively through the whole country. Mr. Pendleton has been quite deranged from the fever attending it and his physicians advised his removal to the poor house but his subscription was immediately raised by his friends to prevent this and he is recovering slowly. The same letter contains the medical information that Christy Stoney is very ill with the measles and that Miss Octavia has had the chillblains extremely badly so that she could not do anything for a time, but they have gotten better and she did some work for the first time last night".

The effect of fever on the plantations is well illustrated in a letter of August 24, 1847 from Peter to his mother. He sarcastically remarks "the country has really been delectable this summer. We had rain all the first part of the season and now I suppose we are to have fever. I had the pleasure of opening the latter diversion on Sunday last by a tolerably smart chill and fever and was manfully followed the next day by Dr. Ravenel who came here on his way to town. We have had one turn a piece and have been fortunate enough to escape with that. I have not recovered complexion or my appetite but feel pretty well. Professor Smith has had fever for a week in Pineville".

On August 3rd, 1838 a letter to Peter Porcher from his sister refers to a phenomenon which should have been commonplace but concerning which I can find a rare mention. "The continued rains have the grass hard to conquer and the long spell of hot weather has worn out many a one. Several Negroes have fallen and recovered. Mr. Warky had two of his to fall dead. Our Julian died after a few days sickness caused by intense heat, although not an immediate stroke of the sun". Heat stroke would have undoubtedly been more common, but for the fact that the black was better able to tolerate the heat than the white. The Negro was certainly subject to strenuous activity in the blaze of summer, often in the highly humid conditions which strongly predispose to the affliction. Previous adaptation to the environmental conditions of the land of his origin was his saving grace.

Measles was apparently a severe problem, particularly among the slaves. A letter to Dr. Porcher from his mother on June 15, 1839 provides a well documented example of the effect of measles on the plantations. "I stayed at Ophir til the 20th of May. We had a great many of the Negroes ill with measles up to that time and six had died, among the number old Wauney. He was the only grown one. It had nearly gone through when I came up. There were not more than six or seven to take it. You were so fortunate not to have lost one or even to have a sick one. I lost four. Elvira was the only one of yours that had not had it and was not at all certain that she had not already had it as she was at Ophir when it went through before". Again in July 19, 1846 in a letter from Dr. Porcher to his mother who was then summering in Winsboro:

"Dr. Ravenel has nearly got through with the measles. He lost eight Negroes since they made their appearance on his plantation and strange to say not one of that disease. He went home today to see about another one ill. He returned from town night before last having traveled all day in a big rain and that while looking as badly as he does. Of course, it must be bad management to lose so many infants."

Peter Cordes Gaillard was in Paris at the same time as Peter Cordes Porcher and was a close friend as indicated by letters

between the two men. One of Dr. Gaillard's chief interests was yellow fever which he believed was imported. Dr. Gaillard was president of the Medical Society of South Carolina and a joint editor of the Charleston Medical Journal and Review.[7]

In this context it is of interest to quote from one of his letters concerning the yellow fever. Dr. Gaillard wrote Dr. Porcher in Knoxville on September 24, 1839 as follows: "I ought perhaps to explain to you why I left the city—'tis told in a few words—first I had not a single patient. The city very hot and yellow fever prevailing. I thought it useless to risk my life for nothing but this would not have induced me to leave had it not been for mother. She, I knew would be in a fever of anxiety and had I been taken sick would have gone to the city and thus exposed herself to the disease".

On the lighter side, correspondence between Francis Peyre Porcher and his uncle, Peter Porcher, while not dealing with things medical, are of interest because of the prominence of the former. "Francis Peyre Porcher was a remarkable Charlestonian of the mid-nineteenth century who excelled not only in botany, but also clinical medicine, medical teaching and general literary skill"..[7] Ophir Plantation was his birthplace. As a boy of fourteen he wrote his Uncle as follows: "I killed a lot of squirrels and wild duck and one wild turkey and a half. That is I killed one by myself and I and a Negro shot at the same time and killed one. I went out to hunt deer but could not get a shot". In another letter of July 29, 1838 he states; "I killed a wild turkey in the holidays". These birds were very abundant. Robert Wilson tells of a Pooshee overseer who killed nine with a single shot as they raised their heads from a baited trench.[11] As a commentary on the diet of the plantation Negroes, Wilson also remarks, "I remember when "big ducks" were killed in quantities by the drivers and on some river plantations were fed to the Negroes until these latter begged for a change"! The exclamation point is mine.

The glamour of the good old days is in part myth and nostalgia for things past should be tempered by the realization that living was not always easy, but tough, and life was not only real and earnest but difficult to hang on to. Imagine yourself as a participant in this drama as described in a letter from one Porcher to her sister.

"I am writing you by my poor little Martha's sick bed, she woke up last night and seemed restless and frightened. I talked soothingly to her for some time but after awhile I noticed her hands and feet were cold.

I got Lilla to call Mother, and Bosey came up and administered Calomel and Castor Oil and put her feet in mustard water. She stared so much that I got frightened about convulsions. We sent for a Doctor a little after four o'clock. He has seen her and says she was severely threatened with convulsions, but that Bosey used the right remedies. She looks very badly. I had arranged to leave here on Tuesday next for Summerville, but God knows what is to be the result of my little darling's sickness".

Certainly such scenes of anxious concern of mother for child have occurred throughout the ages, but certainly with a feeling of greater assurance today, than in those plantation days of a century or so ago.

The pharmacopeia was pitifully meager, the remedies primitive and sadly lacking in any scientific rationale.

How frightening to meet the challenge of malaria, cholera, yellow fever, pneumonia, tuberculosis, dysentery, measles and whooping cough with such remedies as these:

Scrofula

1 lb. Sumach root-1 do inner bark of pine
½ lb. red oak bark--infuse in one gallon water, boil to half
a gallon--give half a pint three times a day. If the stomach rejects so large a dose, give a gill six times a day.

Mrs. Dehon's Receipt

Tablespoon of castor oil-one of brandy and one of molasses stewed together and take as hot as

possible on going to bed. It is said it will even cure consumption. Take 9 nights.

Mrs. Camilla Cordes Receipt, 1846

Mr. Smith's Prescription for Pneumonia
5 grs. Calomel and 5 grs. Dovers powder
Given in the first instance.
After that 5 grs Dovers powder
Try every 3 hours till moisture is produced and the fever is lessened.
Milk and whiskey. . . . . .
For Child 1 year old

For Cold in head and fever.

1 gr. soda and 5 drops paregoric in teaspoonful water every 2 hours.

For Pneumonia

4 grs. tartic emetic
2 tablespoon paregoric
Mixed in one tumbler water
1 tablespoon of mixture taken every hour until nausea is produced.
Then take every 2 hours

Blister on the pain spot-

Dysentery
1 pt. of salt and water saturated.--
½ pint of vinegar
4 ounces of mint water--- or 8 tablespoons--- wine glass to be taken full three times a day.

Bite of a snake
Give to a child a large spoonful of turpentine and repeat the dose every half hour. 2 doses have been known to cure---

Dr. John Thomas

This remedy for snake bite presumably originated with Dr. John Peyre Thomas who lived in St. Johns Berkely from 1796 to 1859.[7]

One wonders why malaria was not more effectively suppressed by quinine. Perhaps Ramsay supplies the answer. "The bark was freely administered in intermittents, but there were strong prejudices against it. So many believed that it lay in their bones and disposed them to take cold, that the physicians were obliged to disguise it".[3]

Peter Cordes Porcher, whose correspondence made a major contribution to this article, died in 1853 of consumption at the age of thirty-seven. He is buried in St. Stephens Churchyard.

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THE UBIQUITOUS DR. SALMON

ST. JULIEN CHILDS, Ph.D.
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By a deed of 12 March, 1686/7, Thomas Smith "gent" sold head rights for 650 acres of land to "William Sallmon gent Doctor of Physicke". As the Doctor must also have had head rights for his own arrival in South Carolina and that of any persons he may have imported, he apparently intended to take up a considerable amount of land, but so far it is not known in what part of the Province his lands lay.[1]

On September, 1688, a document was proved in South Carolina before "Will: Dunlop" and "Will: Salmon", apparently as justices of the peace. The document concerned a ship's cargo owned in part by John Stewart, an ardent Carolinian.[2] On April 27, 1690, Stewart, writing to Dunlop who had returned to Scotland, said, "Log houses I preched up to Dr. Salmond".[3]

It seems probable that this William Salmon, in South Carolina from 1687 to 1690, was the London physician and astrologer of that name who died in 1713. According to his biographers, the latter claimed to have visited New England and brought from the West Indies curiosities for his remarkable museum. Salmon translated from Latin several authoritative medical works which he adorned with comments based on his own great experience, and wisdom. A copious and versatile writer, he also produced many other thick volumes interpreting for the common reader a wide range of recondite subjects. Although he called himself "doctor" and "professor of physick". There is no evidence that he held any university degreee, and his enemies accused him of employing ghost writers.[4] Yet, besides the museum, he collected a large library that included many valuable books, and it is hard to believe that he was ignorant.[5] He made relentless use of his writing to advertise his cures and nostrums, but he was a successful author. Many of his books went into several editions and some continued to be republished after his death.

Salmon was careful to inform his readers where he lodged. Otherwise, they would not have known where to purchase his pills or how to seek his advice. He doubtless had understudies whom he had trained to minister to the needs of his patients and patrons. Hence, that a preface that he dated in 1685 pretends to be written in lodgings in London does not prove that he was then actually resident in that city. The address may have been that of a representative of the author, or, as the book in question was a reissue, the printer may have changed the date without changing the address.[6] An address in South Carolina would have indicated to most of Salmon's readers that he had abandoned them.

In view of his exuberant self confidence, it is not surprrising to find that Salmon had little veneration for constituted authority. Although he translated the *Pharmacopoeia* issued by the Royal College of Physicians, he ridiculed many of its prescriptions, and he took sides against the College in its dispute with the surgeons and apothecaries over the dispensary issue.[7] In his theological writings, he appears strongly anti-Catholic. In the reign of James II, Salmon, like some other prominent Dissenters, may have thought it prudent to take refuge in the colony that had been founded by Shaftesbury, the Protestant champion. Thomas Amy's laudatory account, published in London in 1682, may also

have attracted Salmon to South Carolina. Amy, a druggist, stressed the medicinal value of herbs that he found in that country.[8] Salmon may have learned there that there was no truth in a rumor he had circulated in *The London Dispensatory* that Jesuits' bark came from the sassafras tree.[9] It is interesting that Salmon met John Stewart for he, too, had a fluent pen and a leaning toward omniscience. Altogether, it seems probable that the London medicine man enjoyed his visit to the edge of the wilderness and was a little regretful when the Glorious Revolution made it safe for him to return to the metropolis and resume his feud with the doctors of Warwick Lane.[10]

The following list of Salmon's works is far from complete but it will give some idea of their encyclopaedic range. The titles are greatly abbreviated.

Synopsis Medicinae, or a Compendium of Astrological, Galenical and Chymical Physic 1st ed. 1671, 2d 1681, 3d 1685, 4th 1699.

Polygraphice, the Art of Drawing 1672. (Salmon considered himself a connoisseur and had a number of Dutch paintings in his museum. Several portraits of the Doctor are said to exist and an engraving of one is in the Surgeon General's Office in Washington.

Pharmacopoeia Londinensis, or the New London Dispensatory 1st ed. 1678; others 1682. 1685, 1691, 1696, 1701. (This was a translation of the Pharmacopoeia issued by the Royal College of Physicians).

Horae Mathematicae—1679. A treatise on mathematics.

Iatricia; seu Prazis Medendi, the practice of curing-1st ed. 1681.

Doron Medicon, or a Supplement to the New London Dispensatory-1683. In 1684, Salmon published a prophetic almanac, title unknown to his compiler.

Select Physical and Chirurgical Observations, (co-author Randall Taylor), 1687.

Phyloxa Medicina: or a Supplement to the London Dispensatory, and to Doron— 2d ed. 1688.

The anatomy of human bodies- (translated from the Latin of Isbrandus de Diemerbroeck of Utrecht), 1689; another edition 1694.

A discourse against Transubstantion-1690.

Medecina practica; or Practical Physick-1692.

The Family Physician-1694; 3d ed. 1705..

Pharmacopoeia Bateana: or Bate's Dispensatory. Translated from the second edition of the latin copy-1694; 2d ed. 1700; 3d 1706; 4th 1713.

The Family Dictionary or Household Companion-1696; another ed 1710.

Rebuke to the Authors of the Blew Book, written on behalf of the apothecaries and chirurgians of the City of London-1698.

Ars Chirurgica. A compendium of the theory and practice of surgery-1699; repr. 1703;

Discourse on Water Baptism-1700.

Collecteana Medica, the country physician; or, a choice collection of physick; fitted for vulgar use-1703.

Praxis Medica. The practice of physick, or, Dr. Sydenham's Processus Integri. Translated out of Latin into English, with large annotations, animadversions, and practical observations on the same-2d ed. 1707; 3d ed. 1716.

Botanologia; or, The English Herbal-2 v. folio, 1710-1711; (Dedicated to Queen Anne).

Ars Anatomica- with XXIX anatomic sculptures engrav'd on copper-1714 (Posthumous). (According to the DNB, he also wrote Officina Chymica and Systema Medicinale, dates not given by DNB)

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5. Thomas Ballard issued a catalogue of Salmon's library, sold at public auction Nov. 16, 1713, after his death.
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FOLIE COMMUNIQUÉE-TWO CLASSICAL CASES IN COLONIAL SOUTH CAROLINA

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Every physician, having minimal psychiatric experience, even a year's internship in a public mental hospital, becomes acquainted, sooner or later, with the condition, *Folie de deux*, the well known psychosis, always of a paranoid nature, involving two persons. Generally close relatives, the parties involved usually develop ideas of persecution, the dominant one of the pair showing the overt signs before the other. The parties affected may be old maid sisters or bachelor brothers living together, sometimes husband and wife or even, rarely, unrelated room-mates or close friends living in the same household. Usually the victims of this disorder are ignorant people, often eccentrics or recluses. To use a common, but apt expression, when they become psychotic "they did not have very far to go."

I recall several cases of this description; one involved two maiden sisters who thought that bootleggers were invading their property. The bootleggers were, of course, men, and there can be little doubt that these good ladies' reaction was not one of unmixed fear. They would report seeing car lights in the wooded area in front of their home. At times they heard loud talking and threats. They seemed to derive the same sort of spine-tingling pleasure when reporting these events that small children get from hearing ghost stories. The elder of these two ladies was more intelligent than the other, and it was always she who gave circumstancial accounts of the nocturnal visits. The other dutifully echoed everything her sister reported. Their commitment finally took place when the county sheriff's officers answered a call and narrowly escaped getting shot.

Cases similar to the above, while they cannot be called abundant, are common to every large mental hospital and, occasionally, even to the small private sanitariums. What is much rarer is the condition of multiple paranoia, in which an entire family may become involved, or even a considerable part of a whole community.

The purpose of this paper is to bring to light two cases of mass insanity resulting in murder, both occurring in the colonial period of our own state.

In the first case the participants all belonged to that fine and honorable stock, the French Huguenots. How much education this particular family possessed is not a matter of record, but they seem to have been regarded as honest people and good citizens. The second case involved a family and a community of Swiss-German settlers on the Saluda River. It is evident, from his confession, that the leader was a man of substantial means and education for his time, although long before the outbreak of serious trouble he had been plagued with religious doubts and depressions. In the first case the delusions seem to have been confined to one family, if we include in-laws. In the second and better known case, others beyond the family circle were involved, the whole community was split, with a good many doubters joining the cult from a well grounded fear of the consequences if they refrained from so doing.

These cases are well authenticated, but detailed accounts of them can be found only in rare and obscure scources. Hewatt's *Historical Account of South Carolina* and *Georgia*, published in London in 1779 and Bernheim's *German Settlements and the Lutheran Church in the Carolinas*,

Philadelphia, 1872, are the original published sources. Both of these books are to be found in the Caroliniana Society Library and similar public collections as well as in the occasional private collection specializing in rare Americana. A good account of the second case, the Weber Heresy, is given in A. S. Salley, Jr.s' *History of Orangeburg County*, Orangeburg, S. C., 1898. The Salley account is practically a verbatim reproduction of the accounts as recorded in Bernheim. Of interest to collectors is the fact that the Orangeburg History is the first of a long list of books by the late Mr. Salley, for some fifty years Secretary of the S. C. Historical Commission, and the founder of what is now known as the S. C. Archives Department. David Duncan Wallace devotes a few paragraphs each to the Dutartre and Weber heresies. These cases, however, have been so long buried in dusty archives that they deserve being brought to light once more, since thay constitute a part of our common heritage, however embarrasing, and they are most interesting and revealing from the standpoint of medical history.

Both of these cases were considered "heresies" or, in the language of the period, instances of religious "enthusiasm". Unlike the Puritan colonies of New England, the colonial South Carolinian, while he took his religion quite seriously, deplored the emotional state to which he gave the name "enthusiasm." Hewatt, a former pastor of the Scotch Presbyterian Church in Charles Town wrote in the introductory paragraphs of his account of the Dutartre case the following sage observations:

"Though religion, rightly understood and generally practiced, is productive of the most salutary and beneficial consequences to a society, yet nothing has a more pernicious influence than mistaken notions of it. Of all kinds of delusion, religious enthusiasm is the most deplorable, and has been often attended with the most melancholy and dismal effects. Many calamities have happened in the world, even on account of religion, yet the fatal consequences ought not to be charged to that divine institution, which naturally breathes benevolence, gentleness and peace, but to the ignorance and corruption of human nature, which pervert and abuse it. Enthusiasts generally agree in two articles: they disclaim the power and authority of the civil magistrate, and mistake their own wild fancies, the fruits of a distempered brain, for the impulses of the Divine Spirit, both of which are big with the most fatal consequence to society." [1]

The entire account of the Dutartre heresay as recorded by Hewatt, and occupying some six pages of text, is in quotation. Apparently he used a paper or report prepared by a previous author, who, from internal evidence was none other than the Reverend Alexander Garden, Episcopal minister and Commissary of the Bishop of London. To Mr. Garden was assigned the task of showing the condemned heretics the error of their way, in the discharge of which solemn duty he visited them in jail and accompanied them to the gallows. The account as given by him was so fair and accurate that Hewatt felt no necessity of altering it in any manner.

Although poor, the Dutartres were regarded by their neighbors as persons of blameless and irreproachable lives. Besides the parents there were four sons and four daughters, one a widow, whose second husband was one Peter Rombert, or Rembert. All were residents of the Orange Quarter, one of the four principal localities of Huguenot settlement.

The beginnings of the cult seem to have been connected with a strolling Moravian preacher. This person is not named and apparently had disappeared from the community by the time the excitement reached its climax. "Partly by conversation and partly by the writings of Jacob Behman, which he puts into their hands (he) filled their heads with wild and fantastic ideas." Within a year they had withdrawn from public worship and had less and less communication with their neighbors. They declared that they were receiving direct revelations and commands

from God and were, in fact, the only family upon earth thus privileged. "At length, it came to open visions and revelations. God raised up a prophet among them, like unto Moses, to whom he taught them to harken." This prophet was none other than Peter Rembert, whose wife was the eldest Dutartre daughter, whose former husband was deceased. Rombert now revealed to Pere Dutartre that the world was about to be destroyed on account of the people's wickedness, as in the time of Noah. Only the Dutartres and their in-laws were to be saved. Shortly after this came a second revelation commanding Rombert to "Put away the woman whom thou hast for thy wife and when I have destroyed this wicked generation, I will raise up her first husband from the dead, and they shall be man and wife as before, and go thou and take to wife her youngest sister, who is a virgin, so shall the chosen family be restored entire and the holy seed preserved pure and undefiled in it. At first, the father was staggered at so extraordinary a command from heaven, but the prophet assured him that God would give him a sign, which accordingly happened, upon which the old man took his youngest daughter by the hand and gave her to the wise prophet immediatedly for his wife, who, without further ceremony took the damsel and deflowered her."

For a time thereafter, relative quiet prevailed but in due season it became apparent that Judith Dutartre, the new wife of the prophet, was pregnant. Another cause of concern in the community was the refusal of the Dutartre men and in-laws to serve in the local militia or to attend to their share of work on the public roads.

"After long forbearance, the Magistrate and Justice of the Peace, a Mr. Simmons (sic) issued warrants for the arrest of the men and a separate one for Judith, charging bastardy. The local constable wisely organized a posse to help him serve the warrants. He was met with gun-fire and beat a hasty retreat. Meanwhile, the prophet, Rombert, had assured the family that they must defend themselves. No bullet possessed by human hands could hurt them. Next came Captain Simmons himself at the head of a squad of militia, mustered to protect the constable in the discharge of his duties. The family were now barricaded in the house and fired upon the approach of the militia. On the first volley Captain Simmons fell dead. Several others received wounds. The militia returned the fire, killing one of the women in the house. They then rushed the barricades, entered forcibly and took the six surviving occupants as prisoners.

"At the Court of General Session, held in September, 1724, three of them were brought to trial, found guilty and condemned. Throughout the trial and while awaiting execution, the three condemned men, the father, the prophet Rombert and one Michael Boncan (sic) maintained the greatest composure.

"During the trial they appeared altogether unconcerned and secure, affirming that God was on their side and therefore they feared not what man could do unto them. They freely told the incestuous story in open court in all its circumstances and aggravations, with a good countenance and very readily confessed to facts respecting their rebellion and murder—but plead the authority from God in vindication of themselves, and insisted that they had done nothing in either case but by his express command."

The devout and gentle Reverend Garden labored with them during their last days on earth, but his best efforts were in vain. They repeated to him that which they had declared in their defense on the witness stand. They had done everything with which they were charged, but it had all been by Divine Command.

"At their executions they told the spectators with seeming triumph they should soon see them again, for they were certain they should rise from the dead on the third day.

"With respect to the other three, the daughter, Judith, being with child, was not tried, and the two sons, David and John Dutartre, about eighteen and twenty years

of age, having also been tried and condemned, continued sullen and reserved, in hopes of seeing those executed rise from the dead, but, being disappointed, they became, or at least, seemed to become, sensible of their error, and were both pardoned. Yet not long afterwards, one of them relapsed into the same snare, and murdered an innocent person, without either provocation or previous quarrel, and for no other reason, as he confessed, but that God had commanded him to do so. Being a second time brought to trial, he was found guilty of murder and condemned. Mr. Garden attended him again under the second sentence, and acknowledged, with great appearance of-success. No man could appear more deeply sensible of his error and delusion, or could die a more sincere or hearty penitent on account of his horrid crimes. With great attention he listened to Rev. Garden while he explained to him the terms of pardon and salvation proposed in the Gospel, and seemed to die in the humble hopes of mercy, through the all-sufficient merits of a Redeemer."[2]

Two distinct accounts of the Weber or Weaver hersey, besides the confession of Jacob Weber, are given in Bernheim's *History*. Both of these versions are by Lutheran ministers of the Colonial period. The briefer of the two is by Reverend Dr. Hazelius, writing in *The American Lutheran Church*, page 103. This is quoted, apparently in full by Bernheim. The second and longer account is by a Reverend Dr. Muhlenberg, who first wrote of the cult and its activities in his Journal which was later translated and published in Volume I of the *Evangelical Review*. There are slight discrepancies in the two accounts but they are in general agreement as to the principle events which took place.

Muhlenberg dates the flowering of the cult in the year 1760, but Bernheim concludes that it must have begun a year or two earlier. Jacob Weber's confession, written while in jail and under sentence of death, is dated April 16, 1761. The confession states that its author was a native of Canton Zurich, County of Knomauer, Parish of Stifferchweil, Switzerland and was raised and educated in the Reformed Church. At the age of fourteen he emigrated with a brother to South Carolina. The rest of Weber's confession is of interest only as an example of the penitence of a man facing death on the scaffold. He tells virtually nothing of the history of the cult or the details that led to his conviction. His mournful ravings sound quite similar to those of the involutional or depressed manic grieving over the real or imagined loss of his soul. Weber, did, however, mention the name of Peter Schmidt, whom he accused as the tempter who got him into trouble and was the cause of all his misery.

The trouble began in Saxe Gotha Township, now Lexington County in the neighborhood of Younginer's Ferry. In 1750, just ten years previous to the Weber troubles, the Lutherans in Saxe Gotha numbered but two hundred fifty souls. This probably does not include a number of Reformed communicants living further down the river under the pastorship of the Rev. Christian Theus, brother of Jeremiah Theus, the portrait artist. By 1760 the numbers of the Saxe Gotha Germans and Swiss had doubtless shown substantial increase. Whereas the Reformists had a pastor and a house of worship, the Lutherans at that time had none, being served only occasionally by an itinerant preacher or self-taught "auto didacter." The people generally were described as "wild and continuing to grow wilder."

Exactly when Peter Schmidt came among them is not known, but from internal evidence in Weber's confession it must have been about 1758. Strangely analogous was the role of Peter Schmidt to that of the nameless Moravian preacher who upset the Dutartres. Both are seen as the activating agents but both seem to have borne no part in the criminal activities of the cults they founded. And both the Moravian and Schmidt disappear from the pages of history before their disciples become involved with the law.

When fully developed we find the cult members acting boldly and defiantly. They were said to go about in the nude and to openly practice adultery and other abominations. By 1760-61 the sect had grown so much as to have spread to other sections and even beyond the boundaries of South Carolina. According to Dr. Muhlenberg "the sect spread from South to North Carolina, thence to Maryland and Virginia, among the Germans and English population, and has likewise left some seed of this heresy in Charleston."[3] Several families are supposed to have joined the sect for fear of their lives.

Reverend Christian Theus surprised them at one of their meetings and was mobbed when he attempted to reason with their leaders. He barely escaped by fleeing to the Congaree River where a faithful Negro paddled him by canoe to the opposite shore.

What were the beliefs of this strange cult, springing up among the generally level-headed and industrious Palatines? None other than the astonishing notion that certain of their members were, in fact, the Holy Trinity. Now any of you have worked in the State Hospital must readily recall more than one paranoid schizophrenic who persisted, against all argument, in the belief that he was Jesus Christ. In fact, I recall several Virgin Marys, at least one God the Father, one or two Moses and at least one Judas Iscariot. But to construct a whole cult on three or four living human beings, your neighbors and kinsmen, must have taken a master in the art of persuasion.

Says Muhlenberg "One of them pretended to be God the Father, another, the Son, and a third the Holy Spirit, and the pretended father, having quarrelled with the Son, repudiated the pretended Son, chained him in the forest, declared him to be Satan and finally gathered his gang, who beat and trampled on the poor man until he died; he is reported also to have killed the pretended Holy Ghost in bed. A report of these circumstances having reached the authorities in Charleston, the militia were ordered to arrest the pretended deity, when he was tried, condemned, and executed upon the gallows.

"The English inhabitants scoffed about it, and said the Germans had nothing to fear, their devil having been killed and their God having been hanged."

The shorter account by Dr. Hazelius gives a little more detail in regard to the crimes committed. "One man, by the name of Weaver, personified Christ, another the Holy Spirit; a certain woman, the wife of Weaver, the Virgin Mary and one poor fellow was doomed to represent Satan. The curiosity of the people became highly excited by the strange proceedings on Saluda River—excess followed excess, until at length Weaver, representing Christ or God, ordered that Satan should be chained in a subterranean hole and finally that he should be destroyed. For this purpose they met, placed the unfortunate man in a bed, covered him with pillows, on which some seated themselves, while others stamped with their feet on the bed until the life of the man had become extinct. The corpse was then taken out of bed, and thrown into a burning pile of wood to be consumed to ashes. The perpetrators of this crime were taken to Charleston and tried. Weaver was found guilty and suffered the penalty of the law on the gallows. His wife was pardoned.[4]

Bernehim also gives in brief, the account of the Rev. Christian Theus, * who was well aquainted with the sect, living but twenty or twenty-five miles down the river from their locality. When this man of God came unexpectedly into one of their meetings he "found Jacob Weber contending that he was God and Peter Schmidt insisting that he himself was Christ and that the unconverted members must be healed through his stripes." It was at this time that Theus's life was threatened and the dramatic escape across the river took place.[5]

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*The grave of the Rev. Theus is a short distance from the Old State Road near the Calhoun County line.

Says Bernheim, "All traces of this abominable heresy have long since been obliterated; neither are there even any descendents of Jacob Weber and Peter Schmidt to be found in the Saluda Fork. To what region of country they emigrated, or what was their subsequent history, is not known."[6]

Because of its authorship as well as its interest in connection with the foregoing cases, I would like to briefly summarize one more instance of the same phenomenon. The case was published by the late Dr. James W. Babcock, long Superintendent of the S. C. State Hospital and the founder of Waverley Sanitarium. Dr. Babcock's title of the paper is "Communicated Insanity and Negro Witchcraft", herewith presented in brief.

April 8, 1894, there was admitted to the South Carolina Lunatic Asylum a 37-year old white man from Newberry County. This man, B. S. although uneducated, was a prosperous farmer and merchant, the local post office being located in his store. He enjoyed the local reputation of being temperate and industrious. On admission, he was excited and incoherent, attempting to attack attendents and a staff physician. There were no physical findings of significance except a slight asymmetry of the skull. Family history was negative except that his father was considered eccentric and a maternal uncle idiotic.

Although he had experienced a brief attack about a year previously, the real trouble began when he employed a Negro "root doctor" to treat him for arthritis. The treatment consisted of concentration on the disease and the use of a root bundle named "Little Solomon", whose magic prowess the patient soon accepted as genuine. Next the Negro, "Dr." Darby, offered to make up a duplicate of the charm which he sold the patient for five dollars.

"Solomon" soon told him that his enemies were trying to poison him and had conjured his plantation. Witches were infesting his premises. His first convert was a brother, of rather low mentality and the two began to guard the house with shotguns and pistols. Neighbors were warned that they would be shot if they crossed a deadline a certain distance from the house. "In a short time he persuaded his wife and two children as well as five Negro men to accept his belief in the powers of "Solomon." By these seven men a heavily armed guard was kept up constantly day and night around the dwelling and store to keep off enemies. At night fires were kept burning at each corner of the house to drive away witches who appeared in the shape of cats, dogs, etc. To make a determined resistance against the witches he closed his store, thus shutting up the post office. His brother and the Negroes seemed not only to accept S's delusions but to be as completely under their influence as S himself. For instance, if S. said 'Listen, a gun is going to be fired', they would all reply, 'Yes, we heard it.' When S. claimed to see feathers and insects flying from his fingertips, they, too, saw them. One night S. saw a witch in the form of a white cat, which, on being discovered, disappeared through the floor and was seen by his wife, his brother, and the Negroes, as well as by himself, running down the road.

About this time S. dug up a coffin shaped piece of wood with his name on it. Attached to it was a bundle of horsehair tied in nine knots. "Solomon" revealed to him that the nine knots meant nine days. If the witches could be kept off for that period all danger would have passed. With some of this material S. filled a bottle, corked it tightly and declared that he now had one of the witches in secure captivity.

At the end of the nine days S. sprinkled his premises and filled his shoes with salt and pepper. The same substances were abundantly scattered on the floor surrounding the mattress upon which he now required his children to sleep.

Matters soon went from bad to worse, direct revelations from God largely taking the place of the advice formerly given by "Solomon." S. predicted that the day of judgment would take place on Friday, April 13. On one occasion he declared that

Tommy, his eldest son, must die as a sacrifice to God.

The arthritis, being all the while unimproved, S. telegraphed to a distant part of the state for "Dr." Darby to come and drive away the devils. This worthy was placed in jail immediately upon arrival, charged with obtaining money under false pretenses and practicing medicine without a license.

Having failed by every other means to get the guns and pistols away from S. and his allies, his neighbors finally suceeded in obtaining the weapons upon the promise of a visit from "Dr." Darby."

After seeing Darby he seemed better for a day or two, but soon became excited, accused his wife and children of trying to poison him and attempted to kill his wife with a club. This act made the long-suffering community realize that something drastic had to be done, so S. was taken to jail, on the promise that he was to see "Dr." Darby. The following day he was admitted to the Asylum.

"After admission, S. remained violent the first three days, making attacks upon the attendents and the assistant physician. His appetitie was excellent. He was kept walking out-of-doors during the day. A warm bath at bed time seemed to promote his sleep.

"At the end of the first week he was coherent and restless, making frequent attempts to escape. He was very reticent in regard to the disturbance at home, merely declaring that he was not insane. An older brother then visited him, pronounced him well, and insisted upon taking him home. Finding that this could not be done with the Superintendent's consent, he finally, on May 10, brought responsible bondsmen, and, having been warned of the danger of such a step, took S. away upon a bond relieving the officers of the Asylum of all responsibility for his conduct.

"Upon returning home, S. resumed his business and farming operations, and has since conducted them with an unusual degree of success.

"In March, 1895, S.'s family physician, Dr. G. Y. Hunter gave the following additional facts. S. is now distincly insane and may at any time be returned to the Asylum. He has not manifested any enmity toward the persons who were instrumental in placing him in the Asylum, having been especially friendly to Dr. Hunter. He takes much pride in relating his experiences at the Asylum, and says that if he had not been taken out by his family, God would have delivered him."

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MEDICINE IN THE DAYS OF THE CONFEDERACY

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In his foreword to Robert S. Henry's *The Story of the Confederacy* Douglas Freeman says that only recently has the time come for the third and final labor of Confederate Historiography— that of integrating the various memoirs of major participants in the battles of the South and the various monographs, official correspondence and reports which have separately been published. He thinks that the evidence is now all in and that only now, with the detachment and freedom from emotion that time alone can bring, can mature and finally judgment be reached. While this may well be true of the general history of the Confederacy, it makes it no less interesting to review some of the salient facts of this courageous story and for a few moments to project ourselves into the past a century ago when the seeds of the War Between the States were coming to the tragic harvest.

In March 1852, the Medical Society of South Carolina met in Charleston for its regular meeting on the first day of the month. There were 10 members present, including the president, Dr. Ogier, and the vice-president, Dr. Frost. Medical reports, citing cases of interest, was the procedure used in the scientific discussions in this year and only occasional essays on a specific subject were presented. However, at this meeting, Dr. Frost read an essay on the poisonous effects of lead. Dr. Cain reported that he had used veratrum viride in one case without the slightest influence upon the pulse, and Dr. Prioleau announced that he had partially performed the operation of transfusion in a case of flooding with doubtful success. At this meeting, as was the regular custom, detailed weather reports based on observations by Dr. Joseph Johnson were presented and the meteorological tables always included specific data on the temperature variations, the days of sunshine and rain, and when thunderstorms had been experienced.

Most of the discussions of medical topics immediately preceding the war were concerned with infectious diseases. Very little surgery was performed and one must remember that anesthesia had been known for but a few years and asepsis based on the work of Pasteur and Lister was yet to come. Many of the commoner diseases were noted each month in the reports by various members, and occasionally there is mention of yellow fever; a few orthopedic experiences are included, but no major surgery, and one wonders about the details of the transfusion which Dr. Prioleau had recently reported. It is noteworthy that on December 13, 1852 Dr. J. J. Chisolm, later the author of the standard *Manual of Military Surgery*, was elected to membership in the Society.

In the year 1860, while the clouds of war were gathering fast, Dr. John L. Dawson was president of the Medical Society, and Dr. J. Ford Prioleau was elected attending physician to the Roper Hospital and Dr. R. A. Kinloch attending surgeon. Dr. C. C. Pritchard was charged with unethical conduct for collecting fees from a patient while he was under medical care at the Roper Hospital, and he resigned one month after an official rebuke by the Society. Dr. Robertson apologized to the Society for having written a letter regarding an itinerant chiropodist; the Society immediately passed lengthy resolutions regarding the relationship of the medical profession to such itinerant "charlatans" and decided that any recommendation from a physician was contrary to ethical

conduct. And at the death of each member of the Society other members followed the custom of wearing a "badge of mourning", black crepe around the left sleeve, for a period of 1 month.

In 1861, Dr. J. C. Cain was president of the Society and Dr. F. L. Parker its secretary. There is no mention of the fact that the ordinance of secession had been passed, and that South Carolina was an independent Commonwealth, but at a special meeting on February 22nd of this year a resolution was adopted memorializing the City Council of Charleston for a request for exemption from the gross city income tax on the cost of maintaining a horse and buggy. Little did the members of the Medical Society at that time know of the income tax trials of 118 years hence, that some of their difficulties were not dissimilar to our own today.

There is little reference in the minutes of the Society to any of the events of the war. No meetings were held in 1861 from March to August, when they were resumed. In October Dr. Trescott, the treasurer, turned over his accounts to another member because he had left to join the Confederate Army, and there was considerable discussion of what should be done when Dr. R. A. Kinloch, surgeon to the Roper Hospital was required out of the city a great deal attending to his duties as Medical Director of the Provisional Army of the Confederate State of South Carolina, and Dr. J. F. Prioleau, physician to the Roper Hospital, who found himself in similar circumstances when he was called to active duty as a medical officer in the South Carolina militia. The resignation of both of these gentlemen was requested by the Board of Trustees of the Roper Hospital and they both refused saying that they had been elected directly by the Society and it was up to the Society itself to demand their dismissal. A long special meeting of the Society was held, but because of the absence of an officially appointed secretary the actions were later declared null and void. The Society continued to meet until March 1, 1862 and no further meetings were held until after hostilities ceased, on September 6, 1865.

The Society for the Relief of the Families of Deceased and Disabled Indigent Members of the Medical Profession of the State of South Carolina had been founded in 1848 and at the comencement of the war there were 38 active, dues-paying members. Apparently the Society continued to function until February 1863 when the minutes were taken to Camden and were later lost in the burnings there. The activity of this organization was revived in 1868 and it has been in continuous activity ever since.

The destruction of the Surgeon General's office in the conflagration following Lee's evacuation of Richmond, and the consequent loss of most of the statistical medical information makes the Confederate period in medical history largely unknown. States' rights had been one of the rallying cries of the secessionists and in the early organization of the Medical Service of the Confederate Army it was often difficult to adjust the demands of the states to the necessities of the Confederacy; The Medical Department of the Confederate Army was created by an act of the Congress at Montgomery, and the general plan followed that of the Medical Department of the United States Army. The Medical Staff included only three grades of rank, that of Surgeon-General, Surgeon, and Assistant Surgeon. The Surgeon-General had the rank and pay of a Brigadier-General of Cavalry, each Surgeon that of Major and each 'Assistant-Surgeon that of Captain. Applicants for commissions in the Medical Corps were examined by Army Medical Boards, of one of which Dr. R. A. Kinloch of Charleston was a member. These Boards were the objects of caustic attacks at times, in regard to their personnel and to their method of commissioning medical officers, and in spite of the fact that the examinations were both oral and written, the boards were often accused of favoritism in the granting of commissions. The Surgeon-General was

charged largely with administrative details and the appointement of acting medical officers. The first man to hold this position was Dr. D. C. DeLeon, a member of one of the most distinguished families of Mobile and a surgeon resigned from the United States Army. Upon the removal of the capital to Richmond, Dr. Samuel Preston Moore, who was Dr. Leon's superior in rank in the Medical Corps of the United States Army, succeeded to the office of Surgeon-General and served in that capacity until the end of the war.

Each regiment and battalion of infantry and cavalry was assigned one surgeon, and when several of these groups were combined into brigades the surgeon having the oldest commission became senior surgeon. The surgeon was largely responsible for the sick and wounded in the hospitals, in camp, on the march and in battle. In his duties he was assisted by an Assistant-Surgeon; both of these officers were stationed in the immediate rear of the center of their regiment during hostile activities. The medical officers were also responsible for proper hygienic measures and sanitation in the camps, but it is said that the "country boy" habits of the average soldier of the Confederacy made ideal sanitation impossible of achievement. It has been estimated that more than 3 million cases of sick and wounded came under the care of the Medical Staff of the Confederate Army, and the service performed by this comparatively small group of men was valuable indeed.

One must recall the state of general medical knowledge in 1860 to understand fully the difficulties which confronted the Confederate Army Surgeon. Medicine was still in the Middle Ages, certainly in comparison to our knowledge of today. General anesthesia had just come in and chloroform was the commonly used anesthetic agent; military surgery led to great progress in the field of anesthetics and anesthesia was put to every day use by the Confederate Surgeon. However, while it was never completely lacking, the supply of this agent was limited and various methods were devised whereby smaller amounts could be used through a funnel type of apparatus with adequate effect. But in other ways, medicine was indeed lacking in the knowledge that has so tremendously reduced battle mortality. The discoveries of Pasteur and of Lister did not come until some years after the ending of hostilities and simple asepsis was completely unknown. The blood transfusion which has so spectacularly reduced surgical mortality was unheard of, and the antibiotics were beyond even the most reckless imagination. Some of the progress made in the prevention of infections was arrived at accidentally. For instance, the use of clean rags which could not be kept clean was an accidental blessing of the blockade. The baking of raw cotton to substitute for dressings was another unintentional means of rendering dressings aseptic. The boiling of horsehair to make it more pliable likewise was a blessing in disguise. The ratio of mortality after operation, 14.2%, although shocking in comparision with our present standard is really surprising in the light of the practices of the day.

The lack of surgical instruments was a serious handicap. The stock on hand at the opening of the war was exhausted and it could be replenished only by blockade running, the occasional capture of a case of federal instruments, or the handiwork of a few skilled metal workers in the South. The improvision of a rew necessary surgical instruments was often carried out by the combined efforts of a deft blacksmith and a mechanically minded surgeon. Dr. Simon Baruch describes with a good deal of pride a beautiful case of instruments which was presented to him by a Federal surgeon during his captivity; he was able to smuggle the case out with him when he was exchanged and released but the instruments were sent to Camden for safe keeping and were later captured there by Sherman's troops.

Medical and surgical books and manuals were far more scarce than instruments in the Confederate service, since little printing was done during the war and substitutes for

the standard works could not be quickly improvised. Many surgeons brought their texts on surgery from their own libraries to be used on the field and in the hospital. Dr. J. J. Chisolm of Charleston, compiled the standard *Manual of Military Surgery* which was in general use during the war and Dr. Francis P. Porcher published his volume entitled *Resources of the Southern Fields and Forests* as a help for obtaining locally drugs that would have otherwise been denied because of the blockade. One tincture, a compound of willow, dogwood and yellow poplar bark was used as a substitute for quinine in malarial fevers. Efforts were made to cultivate a poppy in Florida and North Carolina whose unripe seed capsules yielded a dark gum not unlike Turkish opium in its effect. Tinctures and compounds of many seeds and leaves such as gypsum weed and maypop root were employed for the relief of pain both internally and as local applications. Boneset and yellow jasmine, the former used as an antipyretic and the latter to control nervous system symptoms and fever, and the bark of the slippery elm, Queen's root, leaves and roots of the mauva plant and cactus were commonly used as indigenous remedies. Necessity was truly the mother of Confederate invention, but little that was thought useful at that time remains in our armamentarium of today.

Another striking contrast between our own times and those of the Confederacy is in the treatment of medical officers by the military authorities. In the last World War not only the medical officer in uniform but all civilians were regarded as part and parcel of the military efforts of either side, and we experienced the "all out war" that was not the case in the middle of the last century. Medical officers were definitely regarded as non-combatants and except for a very short period during the war, were promptly returned to their own side after capture. Sometimes they were discharged, but more often they were returned outright, quickly, and as a matter of course. Dr. Simon Baruch's experiences in battle, on capture, in prison until release, are recorded in his account of "A Surgeon's Story of Battle and Capture" published in *The Confederate Veteran* for 1914. I shall include some excerpts from his story:

The informality of the men engaged on the two sides is another matter which has no counterpart today. The men actually engaged in battle had no hatred of the enemy themselves, such as the women at home often entertained, and which was fanned into a furious flame after the war by the political policies of Thaddeus Stevens and the bitter experiences of Reconstruction. Often after the actual fighting was over, men on the two sides got together, sang together and often kidded each other. An episode of this nature is also recounted by Baruch: After the hospital and its wounded were captured one of the Southern nurses inquired of the Yankee soldiers "What command is this? The laughing reply was, "We're the chaps that captured Marye's Heights in the battle of Chancellorsville, who are you? "We're the chaps that drove you back afterwards at Salem Church". This raillery was followed by laughter on both sides. Possibly because the war was fought by peoples who were essentially the same, and sometimes families were so divided that brothers fought on opposing sides, that the bitterness, hatred and cruelty of our own times was almost non-existent between 1861 and 1865. And perhaps the war itself need not have been fought at all had our statesmen been wiser and our forebears a little less emotional.

THE DEVELOPMENT OF ORGANIZED MEDICINE IN CHARLESTON

JOSEPH I. WARING, M.D.
Charleston, South Carolina

The first doctors who came to Charles Towne in 1670 and later were probably all rather rugged individualists, seeking to make a living in the new country by any means that they could. In our modern judgment they were quite ineffective healers, and it is doubtful that many of these particular doctors even came up to the better standards of the day in the old countries. Few of them are spoken of as physicians; most of them were surgeons, whose training was probably very scanty, and remedies in both fields were undoubtedly rather drastic and quite limited in scope. At the beginning most of them were English or Huguenot, later other nationalities were represented.

There is no record that in the earliest days of the colony there was any effort to organize any kind of medical brotherhood. Partnerships were fairly common, and during the severe epidemics of yellow fever, smallpox, or other disease that affected the young colony the physicians no doubt gathered to discuss current medical affairs. The usual meeting place for any such group was the local tavern. There was then no newspaper to allow ready communication and information went by word of mouth.

The first evidence that the local profession was concerned with organization of any kind came in 1755, 85 years after the founding of Charles Towne. At that time, at Mr. Gordon's tavern, a meeting was held by the Faculty of Physic, a name probably adopted for the occasion, as it does not appear before or after that date. It was organized with a president and a secretary and the business of the meeting was to make complaint of the things which have troubled doctors over the years, namely the lack of pay and the impositions by the patient. These problems led to the adoption of a resolution, as follows:

"They considering that they are often called out under the greatest Inclemencies of the Weather, sometimes merely to gratify the Patient, and sometimes when no Medicines are required, or such only as the Families themselves are provided with; and likewise that they are often slowly and seldom sufficiently paid, for their solicitous Care in promoting the greatest of all Temporal Blessings, nay that without which Life itself would be Misery, viz. the Health of their Fellow Citizens. neither can they think the Payment of an Apothecary's Bill a sufficient Reward, to him who acts in the three distinct Offices of Physic, Surgery, and Pharmacy.

"They therefore have uanimously resolved, that after the Tenth Instant, they will give no further attendance without a reasonable Fee, paid at the first visit, and at every other visit, during the Course of their Attendance."

In these present days when house calls are largely a memory, such a resolution might be unnecessary.

There is no evidence that this firm declaration was in any way effective, except perhaps in the appearance of a series of items in the *South Carolina Gazette*, most of which took the Faculty very much to task. One item said:

*Read before the Charleston County Medical Society, December 9, 1969.

"When the Distempers rage, then Doctors strive
Which Man amongst 'em most of all shall thrive.
This is the Season for their Harvest Fees
From Whence Honey they draw as sweet bees."

The first enduring medical organization in Charleston was the Medical Society formed in 1789. The intentions of the eleven original members was "to improve the Science of Medicine, promoting liberality in the Profession, and Harmony amongst the Practitioners in this City", and this it seemed to do; at least there is evidence that harmony of a sort was well promoted, for a later description speaks of the meetings: thus

"The symposiac reunions and disputations of this memorable little band of a few congenial spirits, assembled in those days of yore when no novitiate was considered fully equipped for such occasions until he carried his bottle under his belt, we may readily imagine were often continued until the wintry tread of the spontooned watchman was scarcely heard, or not even his sonorous voice as it called the hour of one, perhaps of two, on the 'drowsy ear of night.' "

Ambitious plans were drawn for establishing a public dispensary, a botanic garden, and a humane society, the last of which was organized particularly to furnish means of reviving those unfortunates who had come near to drowning on the waterfront. The Society also undertook to keep a record of the weather, hoping to determine some relation between meteorological conditions and the many epidemics which afflicted the city. Fee bills appeared from time to time. Much of the business of the meetings included reports on the state of the health of the city and the presentation of papers on scientific subjects.

The Medical Society of South Carolina was for many decades the only organized society in the state. There was at one time in Charleston a Junior Medical Society, composed apparently of students home for a long vacation after their brief 5 months courses at medical school. A little later an organization called the Charleston Society of Emulation, which consisted of students and practitioners, functioned for a number of years.

In the early quarter of the nineteenth century there was no mechanism for separation of the honest physicians from the quacks in South Carolina. In 1817 two licensing boards were created, one in Columbia and the other in Charleston, where the Medical Society performed the function of the Board. Sad to say, the efforts of both of these boards to improve the standard of the medical profession were frustrated by legislation which rendered the original provisions harmless, so that licensure for a long time was an ineffectual gesture.

Perhaps one of the most noteworthy actions of the Medical Society lies in the founding of the Medical College of South Carolina. In 1824 members of the Society established under Society jurisdiction the first medical college in the state. Lacking support from the Legislature, the elected faculty underwrote the cost of the operation with their own funds. After some years, this faculty, consisting entirely of members of the Medical Society, became restive under control of the parent body and resigned *en masse* to set up a second medical school, the Medical College of the State of South Carolina, so that there were two colleges competing, with the final result that the original organization after a few years gave in to the newer school.

At mid-nineteenth century there were two notable events in the life of the Society. In 1848, the construction of the Roper Hospital was begun with the help of funds donated by Mr. Thomas Roper. The operation of the hospital was entirely in the Society's hands. In this same year, following a systematic effort to interest the physicians of the state in a state-wide organization, the South Carolina Medical Association was formed directly under the

auspices and direction of the Medical Society of South Carolina. For many years our local Society was the most active segment of this Association, which got off to an auspicious start, but followed a rather slow pace until the impact of the Civil War brought a temporary end to its existence. Immediately after the end of the war the Charleston Society carried out a successful effort to revive the Medical Association, but the bitter aftermath of the war made its progress slow and difficult, and actually it was not until just before the turn of the century that it achieved the same status that it had enjoyed before the Civil War.

The Medical Society has had its ups and downs, its lean years, its factions, and its financial difficulties.

There have been other medical societies in Charleston. Several journal clubs have flourished at various times. The Medico-Chirurgical Club, an organization of the younger members of the local profession, was founded in 1911, and pursues a successful course to the present.

In 1951, the Medical Society of South Carolina gave up its charter as a component member of the South Carolina Medical Association and in effect confined its interests and activities to concern with the affairs of Roper Hospital. At this time the Charleston County Medical Society was organized and has pursued an active career to the present time.

Organized medicine has never enlisted the support of the whole profession. As you are well aware, it is usually a relatively small hard core of loyal interested workers who carry the load, not always without criticism from their brethren on the distant sidelines. The many new and unanticipated problems of today surely call for a dedicated support of organized medicine, lest we come under the oppressive thumbs of government and labor. I trust that our organization will grow stronger and more active as the time passes.

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50 YEARS AGO

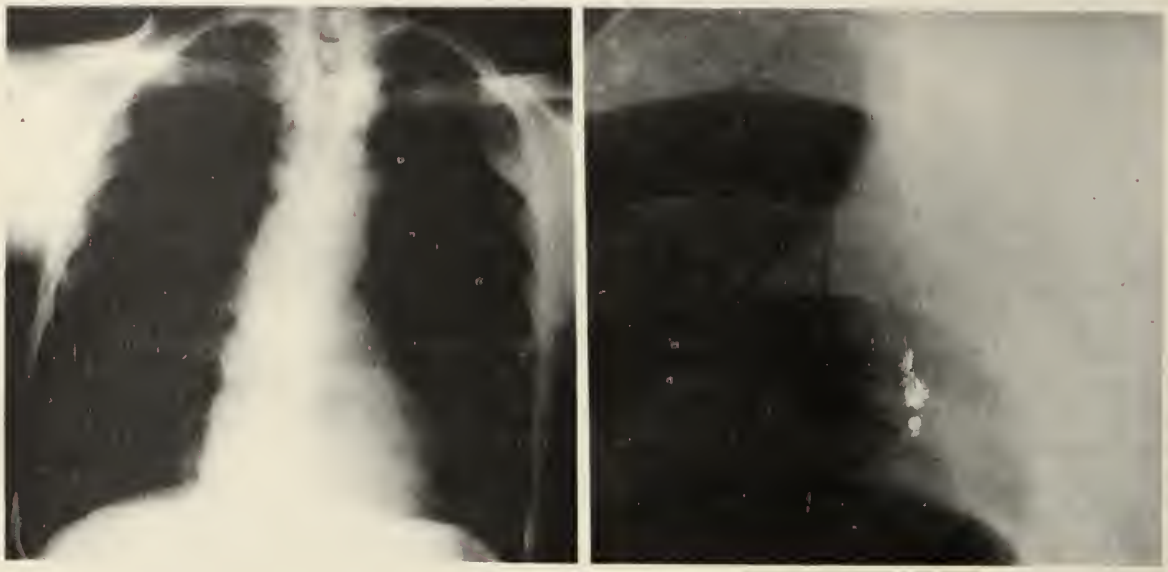
The Journal of the South Carolina Medical Association

50 Years Ago
May 1920

Dr. W. Price Timmerman was elected president of the Medical Association. A proposal to organize a South Carolina Health Officers Association was approved by the House of Delegates. Post-graduate courses were in the making. Plans for a statewide campaign against venereal diseases were in the process of development.

X-RAY FILMS OF THE MONTH

S. E. Puckette, Jr., M.D.
Charleston County Hospital
Charleston, South Carolina



This PA film of the chest was taken on an elderly colored male admitted for evaluation of multiple cutaneous papules thought to represent metastatic carcinoma. Biopsy of one indicated these to indeed be neoplastic but a primary site could not be suggested. The question then arose whether the mass lesion in the upper left chest adjacent to the second rib was a primary process or a secondary one. The second film, which is an oblique view of the mass and rib, provides the answers.

****

One will notice in the lung adjacent to the mass, a linear area of increased density. This represents the visceral and parietal pleurae. Between this and the mass is a narrow layer of air density which is actually fat. This layer of fat lies normally between the parietal pleura and the rib. By demonstrating the presence of the pleura, one can state with confidence that the neoplastic process began in the rib and expanded into the lung space rather than vice versa. Thus the patient was saved the diagnostic procedures involved in searching for a primary site in the lung. Subsequently, it was determined by biopsy of a node that the primary process was a melanoma, though the original site was never found.



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Actions—Ovulen acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

Special note: Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

Indication—Ovulen is indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis and pulmonary embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration, and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable. Retrospective studies in Great Britain and the United States have shown a statistically significant association between cerebral thrombosis and embolism and the use of oral contraceptives.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen. Therefore, if such tests are abnormal in a patient taking Ovulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives.

The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

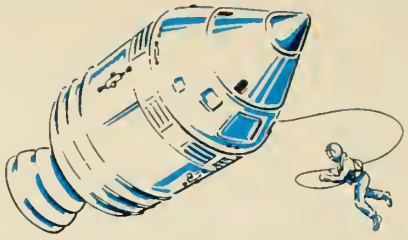
The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

References: 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967. **2.** Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. *2*:193-199 (April 27) 1968. **3.** Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. *2*:651:657 (June 14) 1969. **4.** Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. *90*:365-380 (Nov.) 1969.



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2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

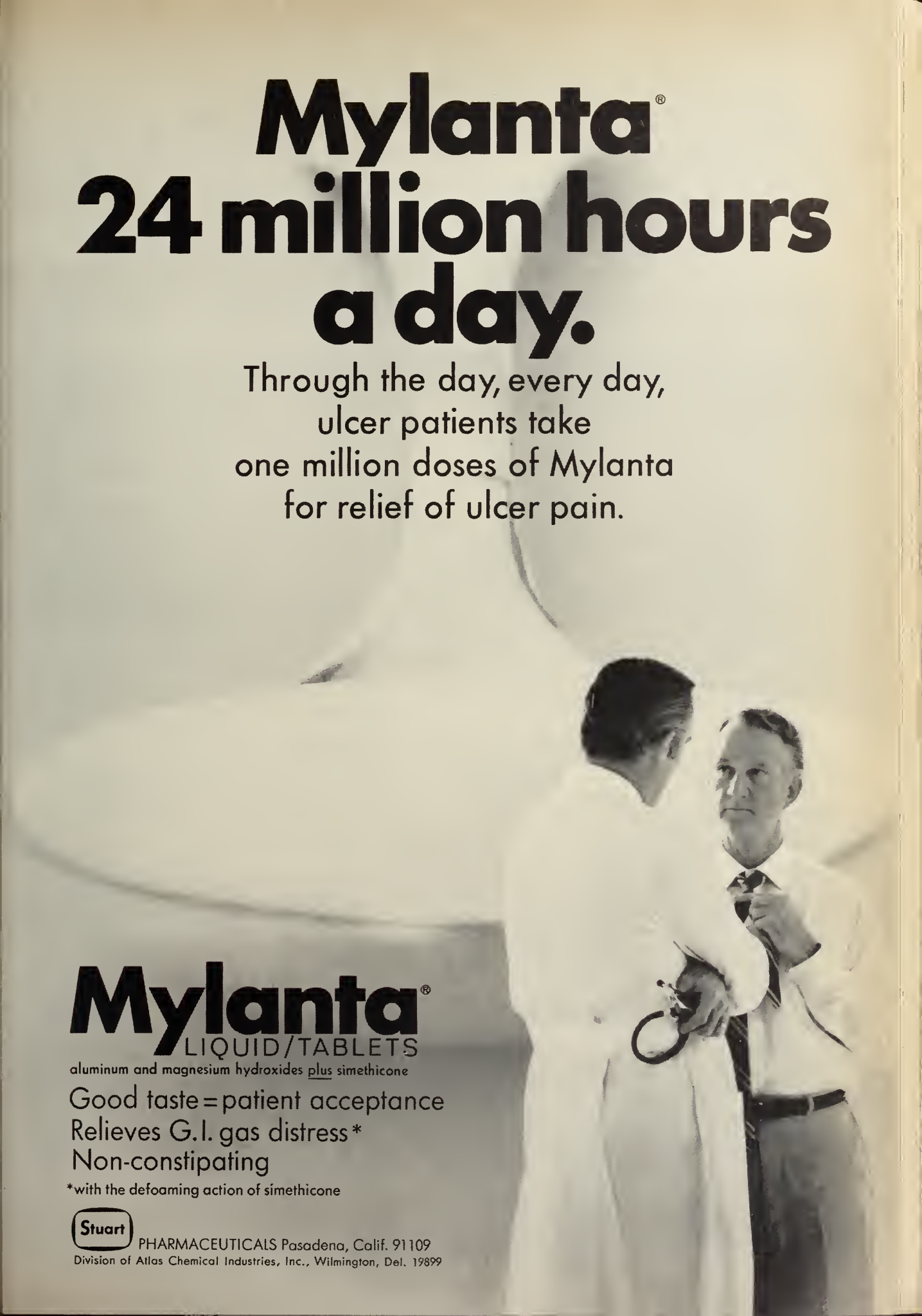
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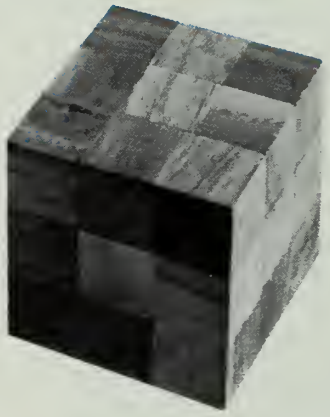
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Caution: Federal law prohibits dispensing without a prescription.

Action and Uses: Urised is effective in cystitis, pyelitis, trigonitis in pregnancy, urethritis, and other urinary tract infections where the invading organisms, such as E. coli, S. aureus and albus, are susceptible to methenamine and methylene blue in an acid medium.

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Administration and Dosage:

Adults: Two tablets, orally, four times per day, followed by liberal fluid intake.

Children: One-half the adult dose.

Acute cases: Initially two tablets every hour for three doses, followed by the recommended daily administration.

Precautions: Administer with caution to persons with known idiosyncrasy to atropine and cardiac disease. While under this therapy the urine is blue; patients should be so advised to allay apprehension.

Side Effects: Neither irritation nor untoward reactions have been reported; however, if pronounced dryness of the mouth, flushing, or difficulty in initiating micturition occurs, decrease dosage. If rapid pulse, dizziness or blurring of vision occurs, discontinue use immediately. Acute urinary retention may be precipitated in prostatic hypertrophy.

Contraindications: Glaucoma, urinary bladder neck or pyloric obstruction, duodenal obstruction and cardiospasm. Hypersensitivity to any of the ingredients.

How Supplied: Bottles of 100, 500 and 1,000 tablets.

References: (1) Sands, R. X.: New York St. J. Med. 61:2598-2602, 1961; (2) Renner, M. J., et al.: Hosp. Topics 39:71-73, 1961; (3) Haas, Jr., J., and Kay, L. L.: Southwest. Med. 42:30-32, 1961; (4) Marshall, W.: Clin. Med. 7:499-502, 1960; (5) Strauss, B.: Clin. Med. 4:307-310, 1957.

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MJ-GP-1

President's Page



The time from May 1969 to May 1970 has been an eventful one. The Osteopathic problem was settled by the legislature passing a bill that was reasonably acceptable to the profession. To date we have had no influx of D. O.'s into our state.

Comprehensive Health Planning districts and committees truly came into being. A number of districts are now quite active and are ready or almost ready to make applications for funding of projects.

The South Carolina Regional Medical Program in its short life has done an exceptional job. It deserves loud praise. It will no doubt in the near future be correlated with Comprehensive Health Planning. These two have the potential for something real good for our state.

In strong words let me again urge each physician to become involved in these programs and lead them in the direction that will be acceptable to Medicine.

It is urged that S.C.M.A. give serious thought to the Student American Medical Association. It is this writer's opinion that we should allow them the privilege of attending and speaking at Reference Committees, attending the House of Delegates meetings, and perhaps even accepting them as *non-voting* members. The question of the rights of interns and residents belonging needs also to be debated and resolved.

The advent of third party payer has now come into its own. It has become apparent that Blue Shield of South Carolina has become quite proficient in this field. My crystal ball indicates more and more third party involvement. It is up to us to guide and shape its course.

The State of South Carolina is actively searching for ways to make Title XIX more effective, more efficient, and less costly. The South Carolina Medical Association has cooperated and I assure will continue to co-operate in this endeavor.

Communications with the nurses have been re-established and the S.C.M.A. Committee has been and is doing a splendid job in this area.

Once again let me urge all Doctors to become involved in politics. This is the year of the elections. We have friends in the legislature. Let us see to it that they stay and new friends be elected. This can be done only by supporting them actively in ways that count.

My sincere thanks to all committees and members of the South Carolina Medical Association for the co-operation they have given me. This co-operation will still be there for our next president, Dr. Ben N. Miller. Great success is wished for him.

This has truly been the year of the change; and for me the most wonderful year of my life.

William L. Perry, M.D.
President, 1969-1970

Editorials

AMA Annual Convention

Chicago will host the 119th Annual Convention of the American Medical Association June 21-25.

Combining the world's largest medical meeting with the nation's convention capital provides the ideal opportunity to present a comprehensive scientific program in incomparable facilities. For the"medical family," it will all be there--postgraduate education presentations for physicians, community service stimuli for their wives in the Woman's Auxiliary's concomitant meeting, and recreational diversions for their sons and daughters.

The hub of the Scientific Program (which was published in its entirety in the May 4 issue of JAMA) will be the International Cmphitheatre on Chicago's Near South Side. This huge complex, site of many of America's most memorable political conventions, is fully air conditioned and its expanse permits presenting the entire AMA scientific program on one floor under one roof.

Over 10,000 physicians in general practice and all the specialties are expected to attend, together with another 20,000 allied health professionals and guests.

Approximately 450 scientific and industrial exhibits will be staffed by pharmaceutical manufacturers and suppliers of medical materials and services and by many of the world's most prominent medical researchers and practitioners. All 23 sections of the Scientific Assembly will be represented. Four general scientific meetings will be addressed to Coma and the Diagnosis of Death, Conception Control and Abortion, The Role of Allied Health Professions in the Delivery of Health Care, and Family Life and the Physician.

Seven sessions under the Section of Special Topics will cover suicide, adverse reactions, drug interactions, neurological surgery, occupational diseases, plastic and maxillofacial surgery, and nuclear medicine. In addition, the 10th Multidiscipline Research Forum will present 50 papers prepared by prominent scientists.

Peer Review

Facility utilization and *quality control* in medicine are the territorial imperatives of physicians. These functions will be possessed and performed by the profession to keep American Medicine virile and superb.

Robert Ardrey spelled out the concept of area (territorial) possession, instinctively inbred in human and animal species. In his book, *The Territorial Imperative*, he elucidates and documents this greatest of human characteristics, and this is what peer review is about.

In 1910 the Council on Medical Education of the American Medical Association published the result of *The Flexner Report* which was a police action by organized medicine that resulted in closing unqualified medical schools, reducing the number from 162 to 76. This was peer review.

Socialism has evolved in this United States in the last two decades, rising to a great crescendo in the last of the 1960's with Title XVIII and XIX, and prepayment third party reimbursement plans. Organized medicine has found itself much in the position of two members in the English House of Lords. It was commented "we have seen many reforms in our day", and, the reply "but we have been against every one of them",

Be we for or against socialism in medicine, when it comes to implementing what must be done, the profession will not surrender its territorial imperative. State agencies dealing in health and fiscal agents functioning as intermediaries for third party payment for medical services require Medical Doctors to be able to function

effectively and within the law. Facility plans for suppliers of health services stipulate that a Utilization Review Committee must be functional. Hospital staffs have risen to the occasion and such committees are policing facilities, i.e., hospitals and extended care facilities.

The State Board of Health has been designated by the Governor as the comprehensive health planning authority in South Carolina. This established arm of the profession has done a yeoman's job in disseminating information and assisting hospitals, extended care facilities, and nursing homes in caring efficiently for the sick in our state.

It is evident that utilization and quality control committees are now necessary for proper function of all agencies dealing in health. The Department of Public Welfare, administering Medicaid, requires concerted professional medical review.

Local (county), regional and statewide medical committees on utilization and quality control are necessary, particularly to assist state agencies and nursing homes. Beyond patient care, the greatest contribution that organized medicine can give the people in South Carolina at this point-in-time is assurance of proper facility utilization and quality control.

Ben Miller, M.D.



MRS. THOMAS PARKER

Mrs. Thomas Parker of Greenville was installed as president of the Woman's Auxiliary to the South Carolina Medical Association during the 47th Annual Convention of the auxiliary at Myrtle Beach in May.

Mrs. Parker is a native of Altoona, Pa. and was graduated from Oldfields School in Glencoe, Md.

Her civic activities have included twenty-five years of service with the Red Cross, president of the Women of Christ Church, a past president of the Greenville County Medical Auxiliary and various offices in the state auxiliary.

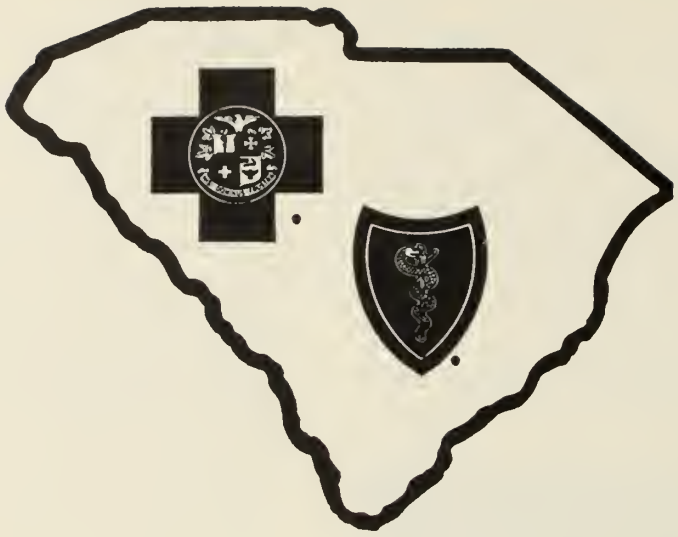
MEETING

The 16th Annual Southern Obstetric and Gynecologic Seminar will be held this year at Grove Park Inn in Asheville, North Carolina, from Monday July 27 through Friday, July 31. A wide variety of obstetric and gynecologic subjects will be covered including cryosurgery, vaginal surgery, cervical dysplasia and carcinoma, obstetrical anesthesia, infertility and hormonal and pituitary ovarian balance studies.

The active faculty this year will be Dr. Bayard Carter of Duke University, Dr. Robert Barter of Washington, Dr. Raymond Kaufman and Dr. Robert Franklin of Baylor University, Dr. Robert Greenblatt of Georgia, Dr. Duane Townsend of California and Dr. Charles Hendricks of the University of North Carolina.

The Seminar is designed for informal teaching with many open discussions and panels. Registration is limited to the first fifty applicants.

For information and registration please write Dr. George T. Schneider, Ochsner Clinic, 1514 Jefferson Highway, New Orleans, Louisiana 70121.



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*Source: Sixty-First Annual Report of The Department of Insurance of South Carolina.

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Dr. William R. DeLoache, a native of Camden, has been elected to the vice presidency and presidency-elect of the medical staff of the Greenville Hospital System. Dr. T. A. Campbell, Jr. has announced the relocation of his office to the Radiology Department of Cherokee County Memorial Hospital. Dr. George H. Varn, Jr. has become associated with Dr. C. Lide Williams in the practice of internal medicine in Georgetown. Dr. W. W. Bowen was honored recently at Hartsville's "Citizen of the Year" at the annual meeting of the Greater Hartsville Chamber of Commerce. Dr. Charles Banov of Charleston has passed the subspecialty board of allergy of the American Board of Internal Medicine. A portrait of the late Dr. E. Bryan Michaux has been presented to the St. Eugene Hospital in Dillon. Dr. John H. Cathcart, Jr. of Gaffney has been named chairman of the Cherokee County chapter of the American Red Cross. Dr. John S. Floyd III of Charleston has been admitted as a fellow of the American College of Obstetricians and Gynecologists. Among the South Carolina physicians who have been re-elected recently to active membership in the American Academy of General Practice are Dr. Malcolm B. Cook of Laurens, Dr. Ira B. Horton of Orangeburg, Dr. Allen Ridley Slone of Hartsville,Dr. A. Richard Johnston of St. George, and Dr. Marion Luther Mathias of Columbia, S. C. New fellows of the American College of Radiology include Dr. Lawson H. Barr of Sumter, Dr. James B. Pressly of Greenville, and Dr. J. Harvey Atwill, Jr. of Orangeburg.

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Dr. Mylnor Wilbur Beach

Dr. Mylnor Wilbur Beach of Charleston, retired professor of pediatrics and head of the Pediatrics Department of the Medical University of South Carolina died March 19, 1970.

Dr. Beach was born June 6, 1888 in Walterboro. He attended schools in Walterboro and received a bachelor of science degree from Clemson University. He received his M.D. degree from the Medical University of S. C. in 1913.

Later he took post-graduate courses in New York City for two years and began the practice of medicine in Charleston in 1915.

He spent two years as a lieutenant in the Navy Medical Corps at the Charleston Naval Shipyard during World War I. He also served a tour of duty aboard the USS Kittery.

He early devoted his attention to pediatrics and was a former president of the South Carolina Pediatric Society.

A portrait of Dr. Beach was presented to the South Carolina Pediatric Society in 1963 "in recognition of his years of services in the pediatric field."

He was a member of numerous local, county, state and national medical societies.

Dr. David St. Pierre Asbill Sr.

Dr. David St. Pierre Asbill Sr., prominent Columbia physician died Feb. 28, 1970.

Dr. Asbill was the son of the late Dr. Fletcher Gladstone Asbill and the late Mrs. Maranda DuBose Asbill.

He was a graduate of the Citadel and Medical University of South Carolina. He received training at the Mayo Clinic and interned at the Roper Hospital in Charleston. He completed his residency at Harlem Eye, Ear, and Nose Hospital in New York City.

He has practiced ophthalmology and otolaryngology in Columbia since 1934 and was in charge of those departments at both Columbia and Baptist hospitals.

Dr. Asbill was president of the South Carolina Society of Ophthalmologists and a charter member of the Eye Bank Association of America.

Dr. David Johnson Dixson

Dr. David Johnson Dixson, 82, died March 20, 1970, in his home.

He was a native of Barnwell, and was a graduate of Benedict College and Howard University. He was a general practitioner in Barnwell for more than 50 years.

Doctor Wins Award

Dr. Paul C. Zamecnik of Boston has received the Passano Award for 1970 for pioneering investigations that opened the process of protein synthesis to direct study, a chemical process in both normal and tumor or cancer cells.

NEWS

South Carolina winners of the 1970 Association of American Physicians and Surgeons Essay Contest are first prize to Steve Loftis of Greenville, second to Wayne Sutton of Lancaster and third to Mike Miller of Central, S. C.

Doctor, after all we've been through together...

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acne
amebiasis
anthrax
bacillary dysentery
bartonellosis
bronchitis
bronchopulmonary infection
brucellosis
chancroid
diphtheria
endocarditis
genitourinary infections
gonorrhea
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autions: Nonsusceptible organisms may overgrow; treat superinfection appropriately. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).
Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage. Upon adverse reaction, stop medication and treat appropriately.

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"Mommy,
I don't feel
so good..."



Young heads and stomachs often can't manage the pace of hurry-up-and-stop for the light... or going up hill, down hill, and around the curve. All too quickly a pleasant drive can become an upsetting trip. *Motion sickness makes children—and their parents—absolutely miserable.*

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Bonine protects most patients—young or old—against nausea and vomiting up to 24 hours with a single dose. Pleasant-tasting Bonine tablets are chewable. They can be taken anytime, anywhere, without water. In difficult cases, multiple daily doses may be necessary for maximum response.

Precautions: Although the incidence of drowsiness and atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. *Use in women of childbearing age:* In weighing potential benefits vs. risk in women of childbearing age, consider the fact that a review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum.

Supply: 25 mg. scored tablets.

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swelling, and tenderness

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REVISED PRESCRIBING INFORMATION

IMPORTANT NOTE: INDOCIN (Indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended under Indications. The drug should not be prescribed for children because safe conditions for use have not been established.

General Adverse Effects: Because of the high potency of the drug and the variability of its potential to cause adverse reactions, the following are strongly recommended: 1) the lowest possible effective dose for the individual patient should be prescribed. Increased dosage tends to increase adverse effects, particularly in doses over 150-200 mg/day, without corresponding clinical benefits; and 2) careful instructions to, and observations of, the individual patients are essential to the prevention of serious and irreversible, including fatal, adverse reactions, especially in the aging patient.

Indications: Symptomatic relief of adult rheumatoid and degenerative joint disease unresponsive to adequate trial of salicylates and other measures of established value, such as appropriate rest. Has been found effective in active stages of: 1) moderate to severe rheumatoid arthritis including acute flares of chronic disease, 2) moderate to severe rheumatoid (ankylosing) spondylitis, and 3) moderate to severe degenerative joint disease of the hip (osteoarthritis of the hip). Has been found effective in relieving pain and reducing fever, swelling, and tenderness in acute gouty arthritis in selected patients. May enable reduction of steroid dosage in patients receiving steroids for the more severe forms of rheumatoid arthritis; in such instances the steroid dosage should be reduced slowly and the patients followed very closely for any possible adverse effects.

Contraindications: Children 14 years of age and under; pregnant women and nursing mothers; active gastrointestinal lesions or history of recurrent gastrointestinal lesions; allergy to aspirin and indomethacin.

Warnings: *Gastrointestinal Effects:* Because of the occurrence and, at times, severity of gastrointestinal reactions, be continuously alert for any sign or symptom signaling a possible gastrointestinal reaction. The risks of continuing therapy with INDOCIN in the face of such symptoms must be weighed against the possible benefits to the individual patient. Gastrointestinal effects may be reduced by giving the drug immediately after meals, with food, or with antacids. Use greater care in aging patients.
Ocular Effects: Corneal deposits and retinal disturbances, including those of the macula, have been observed in some patients on prolonged therapy. Discontinue therapy if such changes are observed. Ophthalmologic examination at periodic intervals is desirable in patients on prolonged therapy.
Central Nervous System Effects: INDOCIN (Indomethacin, MSD) may aggravate psychiatric disturbances, epilepsy, and parkinsonism, and should be used with considerable caution in patients with these conditions. If severe CNS reactions develop, discontinue the drug.

Precautions: Blurred vision may be a significant symptom that warrants a thorough ophthalmologic examination. Patients should be cautioned about engaging in activities requiring mental alertness and motor coordination, as driving a car. Headache which persists despite dosage reduction requires complete cessation of the drug. May mask the usual signs and symptoms of infection; therefore, the physician must be continually on the alert for this and should use the drug with extra care in the presence of existing controlled infection. After the acute phase of the disease is under control, an attempt to reduce the daily dose should be made repeatedly until the patient is off entirely.

Adverse Reactions: *Gastrointestinal Reactions:* Single or multiple ulcerations of the esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage, with fatalities in some instances; gastrointestinal bleeding without obvious ulcer formation; perforation of preexisting sigmoid lesions (diverticulum, carcinoma, etc.); rarely, increased abdominal pain in ulcerative colitis patients or development of ulcerative colitis and regional ileitis; gastritis, which may persist after the cessation of the drug; nausea, vomiting, anorexia, epigastric distress, abdominal pain, and diarrhea.
Eye Reactions: Corneal deposits and retinal disturbances, including those of the macula, have been observed on prolonged therapy; blurring of vision.
Hepatic Reactions: Rarely, toxic hepatitis and jaundice, including some fatal cases.
Hematologic Reactions: Aplastic anemia, hemolytic anemia, bone marrow depression, agranulocytosis, leukopenia, and thrombocytopenic purpura. Since some patients manifest anemia secondary to obvious or occult gastrointestinal bleeding, appropriate blood determinations are recommended.
Hypersensitivity Reactions: Acute respiratory distress, including dyspnea and asthma; angiitis; pruritus; urticaria; angioedema; skin rashes.
Ear Reactions: Hearing disturbances, deafness, tinnitus.
Central Nervous System Reactions: Psychotic episodes, depersonalization, depression, coma, convulsions, peripheral neuropathy, drowsiness, mental confusion, lightheadedness, dizziness, headache.
Cardiovascular-Renal Reactions: Edema, elevation of blood pressure, hematuria.
Dermatologic Reactions: Loss of hair, erythema nodosum.
Miscellaneous: Rarely, vaginal bleeding, hyperglycemia, glycosuria, ulcerative stomatitis, and epistaxis.

Supplied: Capsules containing 25 mg indomethacin each, in bottles of 100 and 1000; capsules containing 50 mg indomethacin each, in bottles of 100.

For more detailed information, consult your Merck Sharp & Dohme representative or see the package circular.

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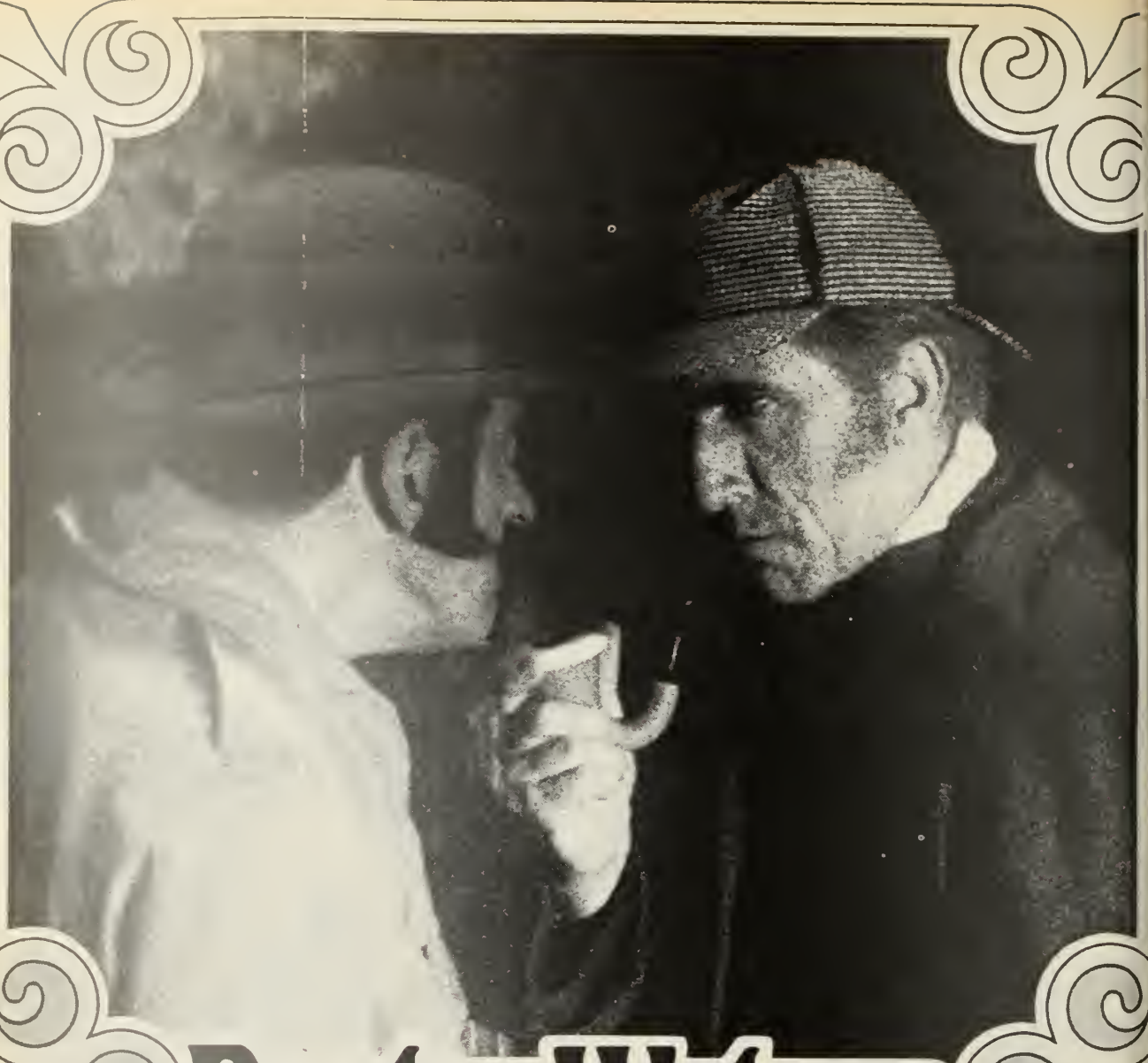
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Complete details of the Scientific Program are in the May 4, 1970 issue of the *Journal of the American Medical Association.*

Check it carefully. Then use the housing and advance registration forms appearing in *JAMA* and the *American Medical News* to insure your place at the world's largest medical convention.



Doctor Watson exposes a double agent

Fog on the Embankment. Two figures emerge into silhouette against a haloed street lamp. The flare of a match reveals the profile of Sherlock Holmes. As he lights his calabash, his companion speaks:

"By Jove, Holmes, that amazing intuition of yours has proved right again. What we're looking for is a single entity. I thought we were dealing with several others—even twins. But now—I'd say we've uncovered a double agent."

"Tell me more, Watson, and be quick about it!"

(Watson withdraws a folded paper from inside his greatcoat, and reads aloud from it):

"The key to the whole cypher is SYNTHROID (sodium levothyroxine)"...

"Shhh! Watson, not so loud! You'll alert our quarry."

(Watson continues): "A single entity that serves two functions."

"A master stroke, Watson."

"Follow along, Holmes. In the neighborhood of 95% of the circulating thyroid hormone is levothyroxine—T_4 as you call it. T_4 is bound to thyroxine-binding proteins in the serum. It becomes available only gradually to tissue cells—as free thyroxine."

"Is that why there's such a smooth, predictable response, Watson?"

"Quite! With agent T_4, SYNTHROID, the chances of a precipito rise in metabolic rate are lessened."

"But how does 'free' thyroxine fit into the picture?"

"Well, Holmes, you might call it the tissue thyroid hormone—becau 'free' thyroxine (that is, thyroxine not bound to protein) is active the tissue level. It is gradually released from thyroxine-binding pr teins. Each daily dose of SYNTHROID is mostly bound to thyroi binding proteins, and slowly released as 'free' thyroxine—the form which it is metabolically active."

"Magnificent, Watson! So protein-bound thyroxine is the major for of circulating thyroid hormone, and it is released as 'free' thyroxir And that's why SYNTHROID is able to simulate the normal proce so artfully. Q.E.D."

"Not so fast, Holmes. SYNTHROID works for the *physician*, to Because its dosage is more precisely controllable, and because r sponse is so smooth and predictable, the *doctor* gets fewer phone cal in the wee hours from agitated patients. Both parties get more sleep

"Comforting, my dear doctor, to know that SYNTHROID, tl 'single agent,' cleverly does the job of two."

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Synthroid®
(sodium levothyroxine)

Indications: SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) **Tablets** include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (non-toxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **Injection** is indicated in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. When a patient does not respond to oral therapy, SYNTHROID (sodium levothyroxine) injection may be administered intravenously to avoid any question of poor absorption by either the oral or the intramuscular route.

Precautions: As with other thyroid preparations, an overdosage may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, as Addison's Disease (chronic subcortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myocardial infarction.

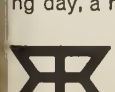
Side effects: The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism: sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.

In most cases with side effects, a reduction in dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose, preferably after breakfast. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100 and 500. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, N.F., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent.

SYNTHROID (sodium levothyroxine) INJECTION may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

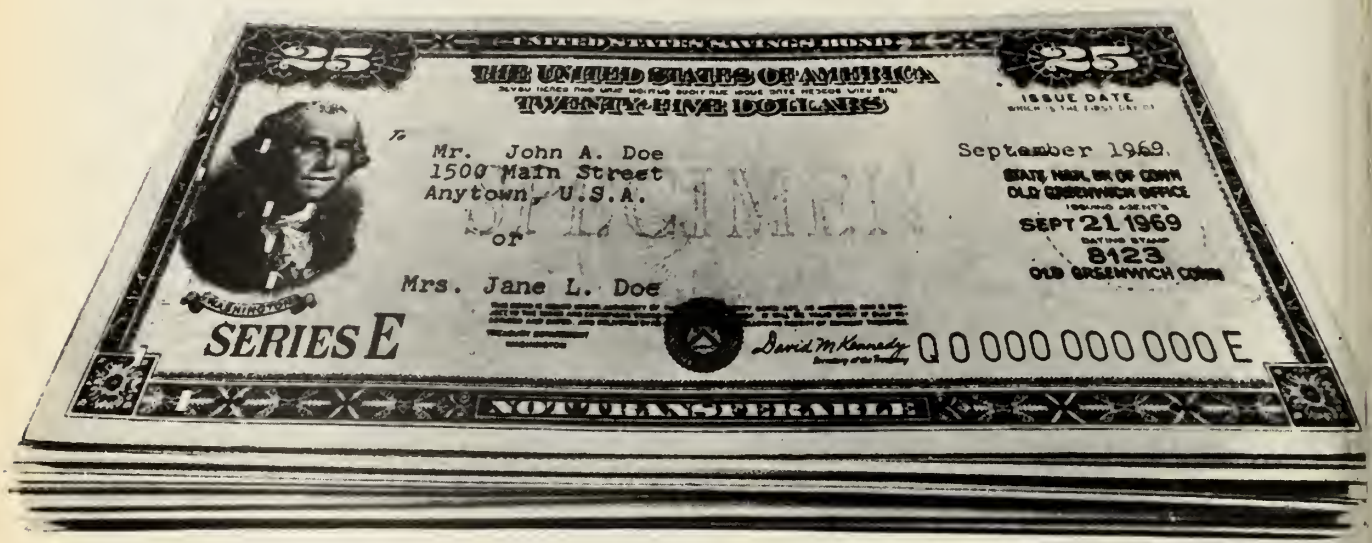


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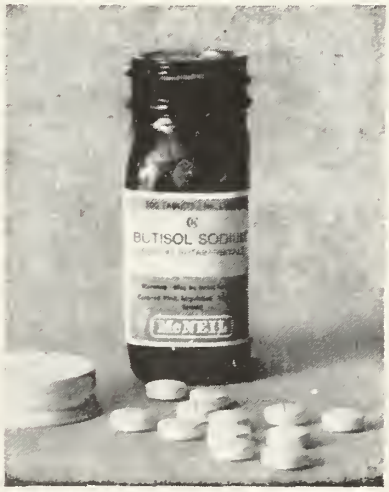
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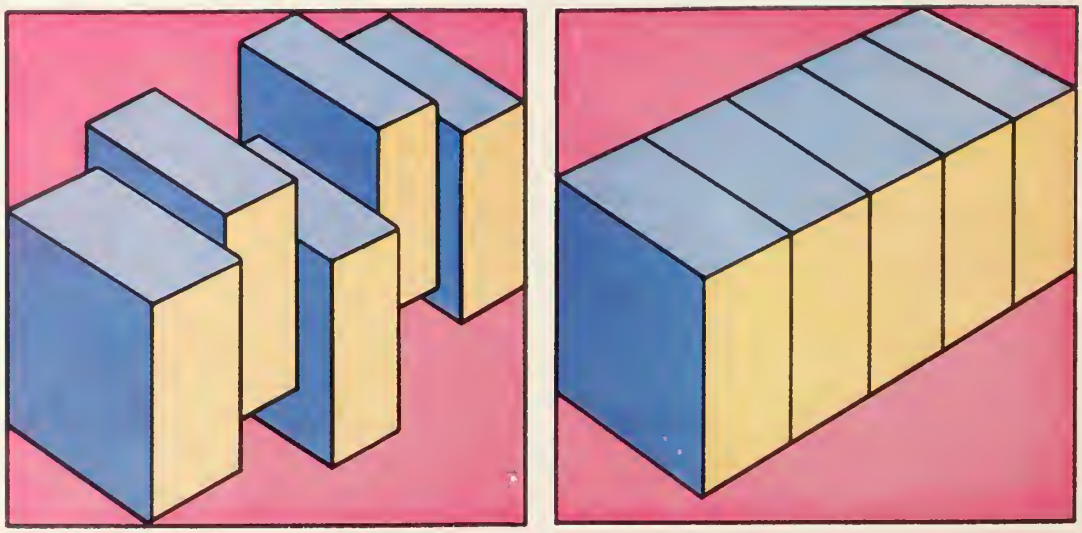
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to emotional harmony

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WARNINGS: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.
PRECAUTIONS: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
ADVERSE REACTIONS: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido--all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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Worning: Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovascular disease. Do not use during first trimester of pregnancy unless potential benefits outweigh potential risks.

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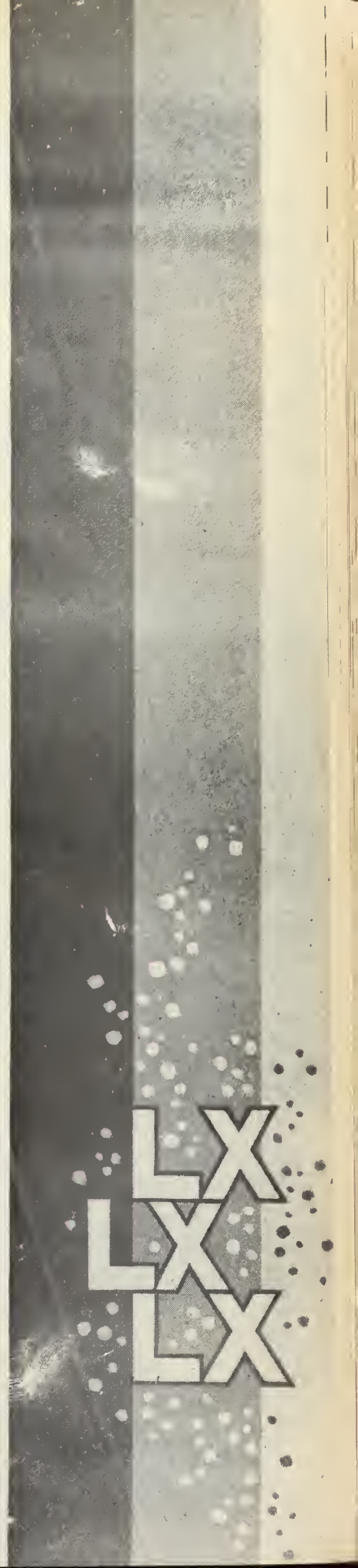
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Literature on indications and dosage available on request.

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References:
(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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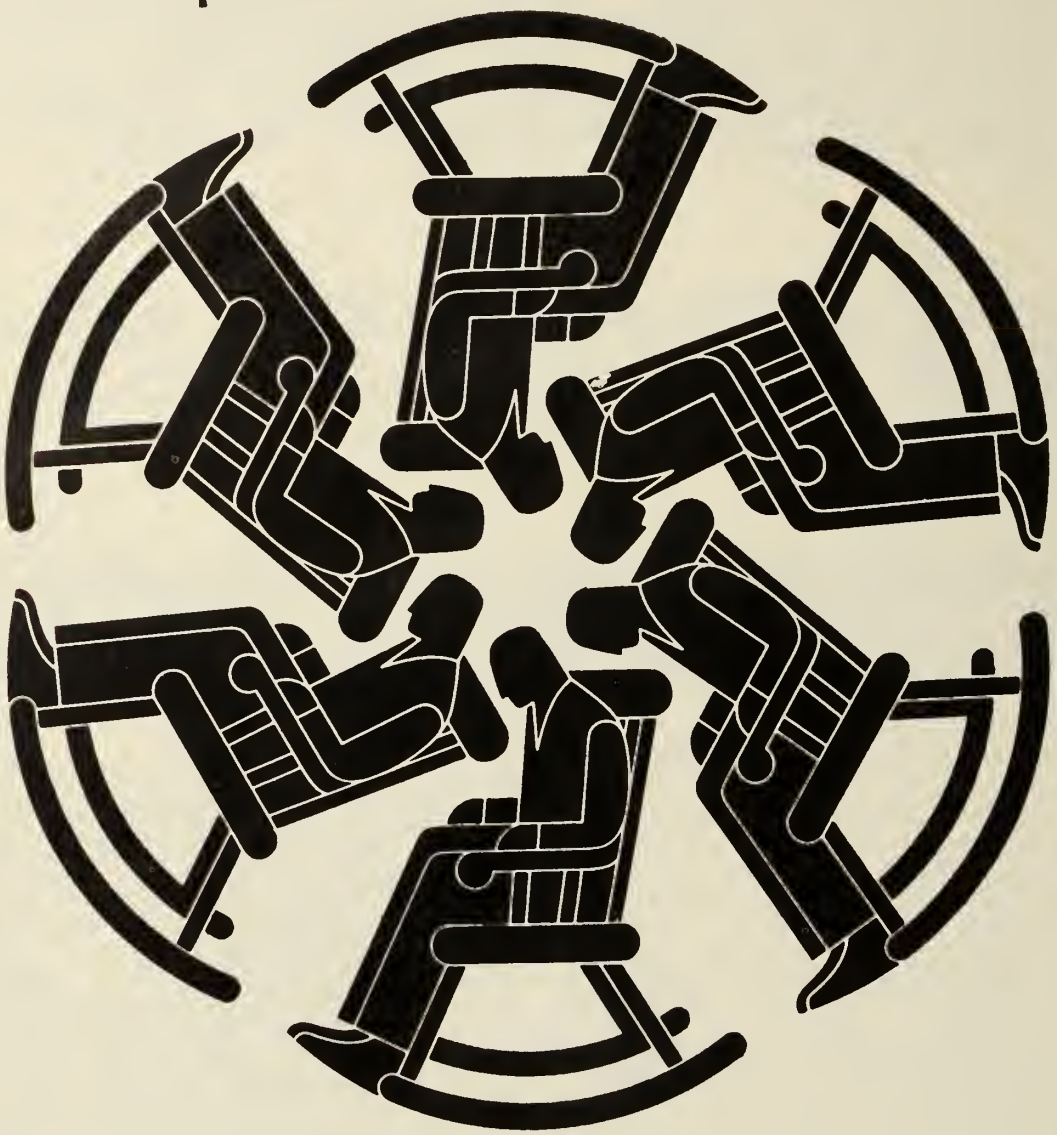
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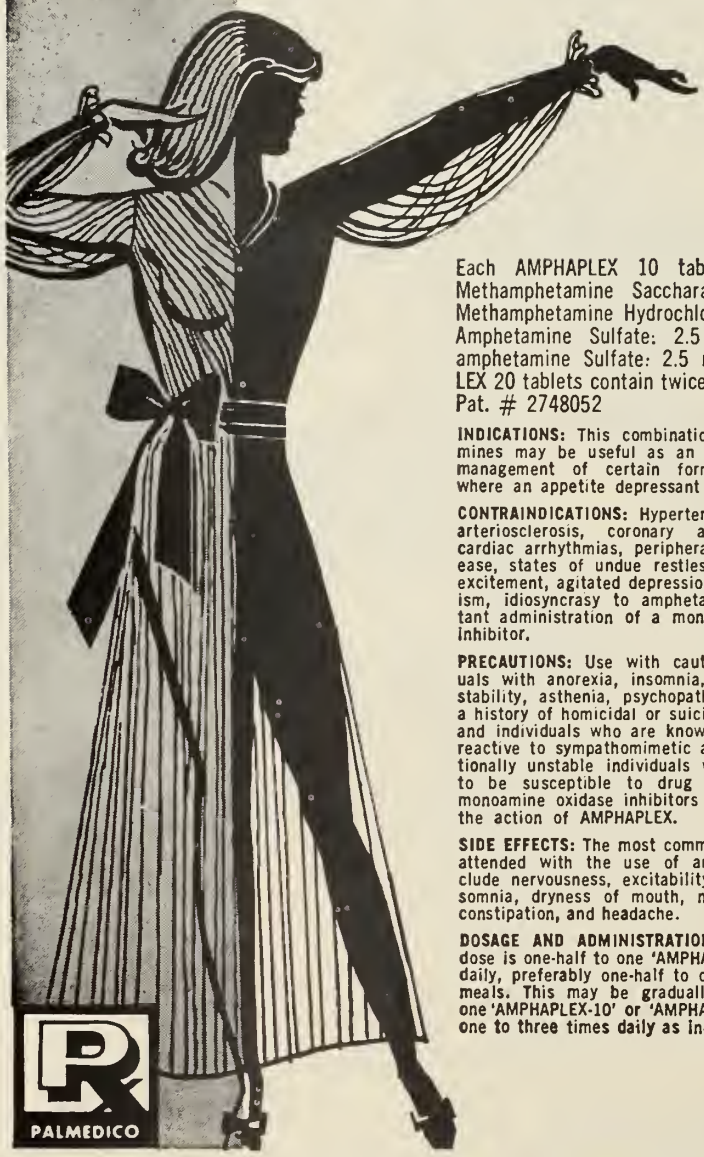
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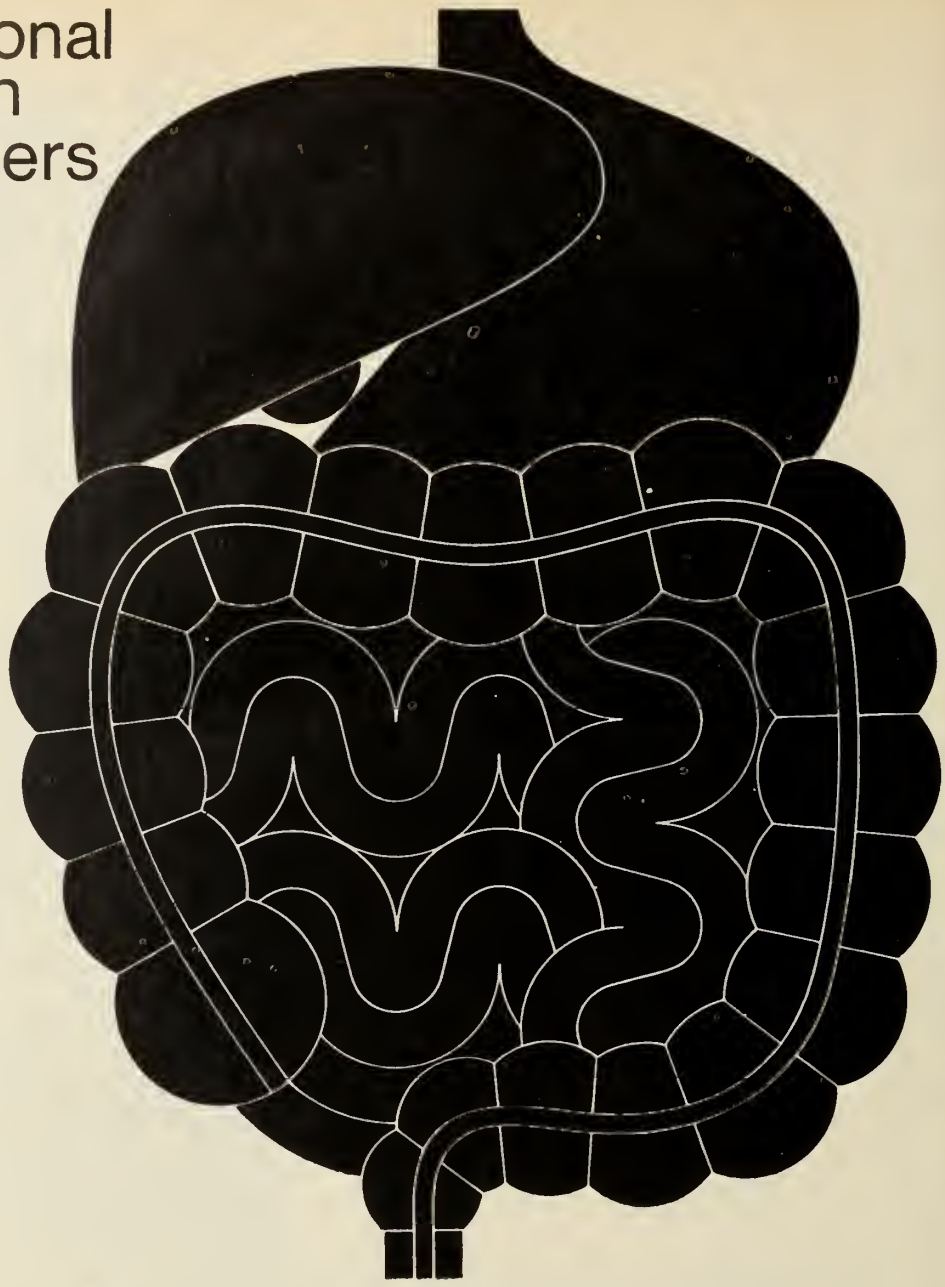
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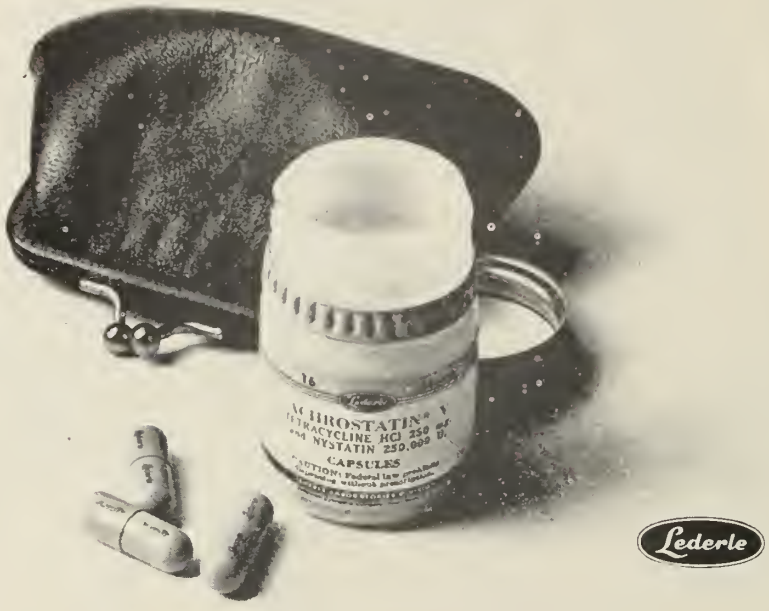
Best, C. H. and Taylor, N. B.: *The Physiological Basis of Medical Practice*, 7th edition, Williams and Wilkins, Baltimore, 1961, p. 480.

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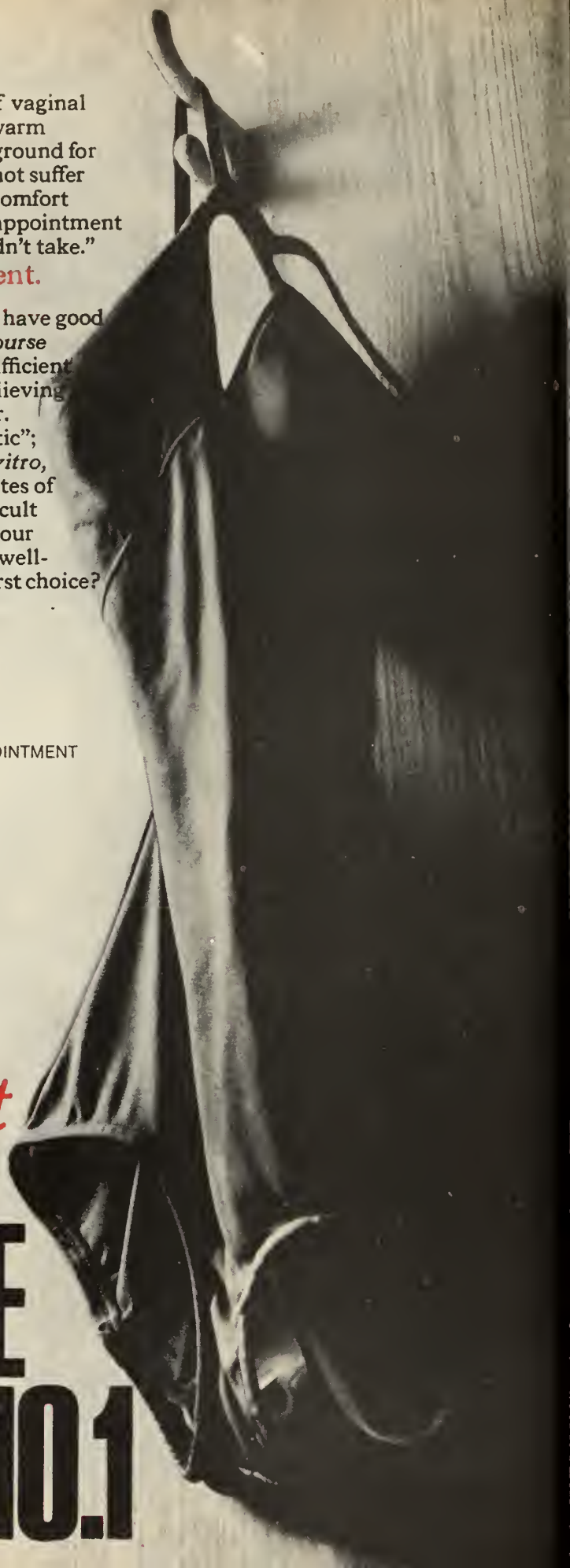
No wonder you see so many more cases of vaginal moniliasis during this season. A damp, warm bathing suit provides a perfect breeding ground for fungal invaders. But your patients need not suffer the pain, the embarrassment and the discomfort of these stubborn infections. Nor the disappointment which comes when they find "the cure didn't take."

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Vaginal moniliasis due to Candida albicans and other Candida species.

Contraindications:
Patient sensitivity to any of the components. During pregnancy manual tablet insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

Caution:
Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment or Vaginal Tablets have been extremely rare. To avoid re-infection, it is recommended that the patient refrain from sexual intercourse during treatment or the husband wear a condom.

Dosage:
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CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil, with inserter—enough for a full course of treatment. Store under refrigeration.

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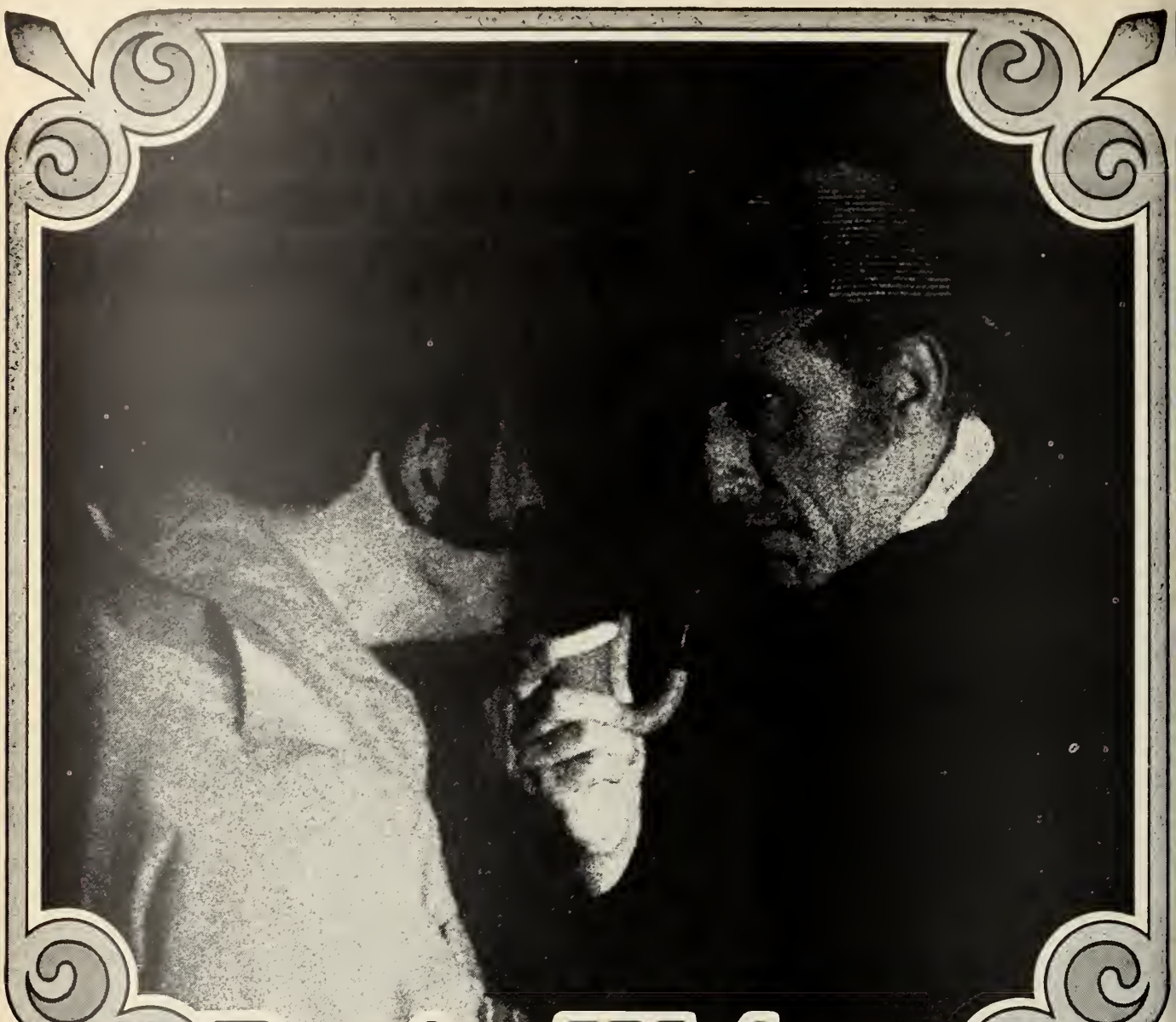
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Doctor Watson exposes a double agent

Fog on the Embankment. Two figures emerge into silhouette against a haloed street lamp. The flare of a match reveals the profile of Sherlock Holmes. As he lights his calabash, his companion speaks:

"By Jove, Holmes, that amazing intuition of yours has proved right again. What we're looking for is a single entity. I thought we were dealing with several others—even twins. But now—I'd say we've uncovered a double agent."

"Tell me more, Watson, and be quick about it!"

(Watson withdraws a folded paper from inside his greatcoat, and reads aloud from it):

"The key to the whole cypher is SYNTHROID (sodium levothyroxine)"...

"Shhh! Watson, not so loud! You'll alert our quarry."

(Watson continues): "A single entity that serves two functions."

"A master stroke, Watson."

"Follow along, Holmes. In the neighborhood of 95% of the circulating thyroid hormone is levothyroxine—T_4 as you call it. T_4 is bound to thyroxine-binding proteins in the serum. It becomes available only gradually to tissue cells—as free thyroxine."

"Is that why there's such a smooth, predictable response, Watson?"

"Quite! With agent T_4, SYNTHROID, the chances of a precipitous rise in metabolic rate are lessened."

"But how does 'free' thyroxine fit into the picture?"

"Well, Holmes, you might call it the tissue thyroid hormone—because 'free' thyroxine (that is, thyroxine not bound to protein) is active at the tissue level. It is gradually released from thyroxine-binding proteins. Each daily dose of SYNTHROID is mostly bound to thyroid-binding proteins, and slowly released as 'free' thyroxine—the form in which it is metabolically active."

"Magnificent, Watson! So protein-bound thyroxine is the major form of circulating thyroid hormone, and it is released as 'free' thyroxine. And that's why SYNTHROID is able to simulate the normal process so artfully. Q.E.D."

"Not so fast, Holmes. SYNTHROID works for the *physician*, too. Because its dosage is more precisely controllable, and because response is so smooth and predictable, the *doctor* gets fewer phone calls in the wee hours from agitated patients. Both parties get more sleep!"

"Comforting, my dear doctor, to know that SYNTHROID, the 'single agent,' cleverly does the job of two."

Synthroid® (sodium levothyroxine)

Synthroid®

(sodium levothyroxine)

Indications: SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) Tablets include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (non-toxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **Injection** is indicated in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. When a patient does not respond to oral therapy, SYNTHROID (sodium levothyroxine) injection may be administered intravenously to avoid any question of poor absorption by either the oral or the intramuscular route.

Precautions: As with other thyroid preparations, an overdosage may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, as Addison's Disease (chronic subcortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myocardial infarction.

Side effects: The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism: sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.

In most cases with side effects, a reduction in dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose, preferably after breakfast. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100 and 500. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, N.F., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent.

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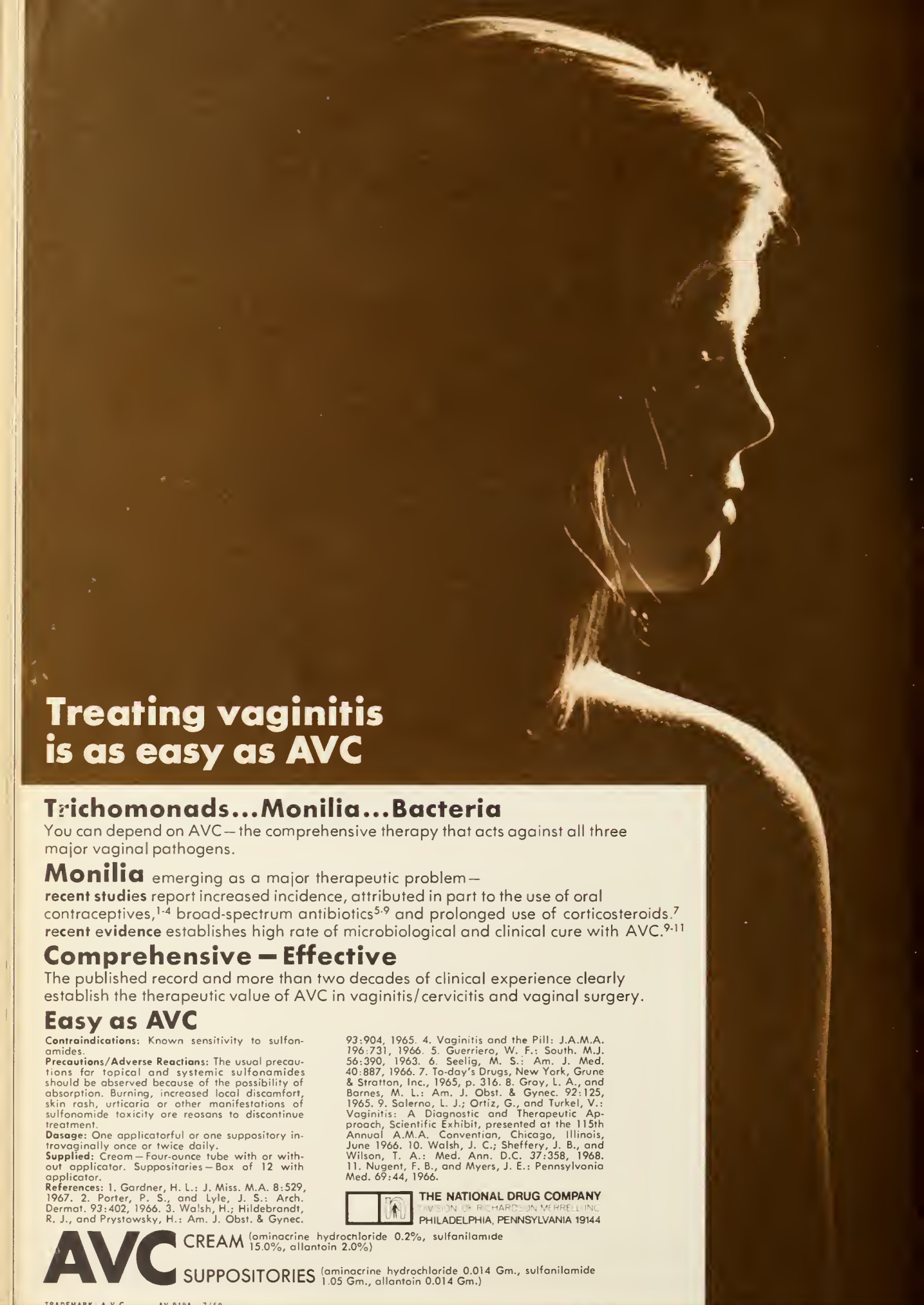
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SOUTH CAROLINA HEART ASSOCIATION

CARDIOVASCULAR CASE OF THE MONTH

LEFT ATRIAL THROMBUS

BROADUS SOWELL, M.D.

The symptons produced by a left atrial cavitary mass were first recognized in 1896 in a living patient[1] and can be successfully treated by removal. A left atrial thrombus occurs frequently with mitral stenosis and atrial fibrillation, a clinical setting in which hemoptysis from pulmonary venous hypertension or multiple pulmonary emboli likewise can occur. A patient with mitral stenosis, massive left atrial thrombus and multiple pulmonary emboli was recently successfully treated at the Medical University Hospital.

Case report: G. H. a 53-year-old white female with mild diabetes had no cardiac symptoms until Dec. 1969 when she developed dyspnea on exertion, substernal chest pain, fever and hemoptysis. She was admitted to hospitals elsewhere and a diagnosis of mitral stenosis made. Prior to admission to the Medical University Hospital she had several episodes of snycope during which blood pressure and pulse was not obtainable. Electrocardiograms during some of these showed ventricular fibrillation from which she was converted with DC shock. Her predominant rhythm was rapid atrial fibrillation and digitalis was given. She developed severe nausea and vomiting thought to be due to digitalis toxicity and the drug was discontinued.

After a period of initial improvement she deteriorated and was referred to the cardiology service of the Medical University Hospital for evaluation and treatment prior to anticipated mitral value surgery. On admission she was critically ill, vomited frequently and coughed up bright blood. The pulse was irregular at 170 per min., blood pressure 120/70 mm Hg, resp. 24. The neck veins were distended in the upright position. There was dullness to percussion at both lung bases with fine crackling rales throughout all lung fields, more prominent on the right. There was a prominent left parasternal lift, accentuation of the first heart sound at the apex, no detectable splitting of the second sound, a Grade I/VI systolic murmur at the 4th and 5th left intercostal space, no opening snap or diastolic murmur. The liver was palpable 2 cm below the right costal margin and was tender. The spleen was not palpable, there was minimal dependant edema and no evidence of peripheral emboli or gangrene. The admission cardiogram was normal except for atrial fibrillation with a ventricular rate of 170 per min. A chest film showed generalized cardiomegaly, pneumonic consolidation of the RUL and patch consolidation of the left lung base. There was an area of decreased blood flow on the lateral border

Associate in Medicine, Medical University of S. C. & V. A. Hospital, Charleston, S. C.



Figure 1. Filling defect within left atrium outlined by pulmonary angiography (arrows).



Figure 2. Persistent opacification of portion of right upper lobe unchanged during four weeks of hospital treatment.

of the right lung consistent with pulmonary emboli demonstrated by perfusion lung scan using I 131 labeled macroaggregated human serum albumin. A pulmonary arteriogram outlined multiple filling defects of branch pulmonary arteries and a large filling defect within the lumen of a dilated left atrium, (Fig.1). She was treated with intravenous heparin, and digoxin while being prepared for surgery. Numerous blood cultures were sterile.

As her ventricular rate slowed, the murmur of mitral stenosis became audible. She underwent open heart operation on Feb. 26 at which time the right atrium and a pulmonary artery were free of clots. The left atrium contained a 6 x 5 cm laminated clot which was attached to and occluding the pulmonary vein from the right upper lobe. A valvuplasty was done for the mitral stenosis. The upper lobe of the right lung was consolidated and adherant to the chest wall. Her post-operative course was prolonged by arrhythmias, repeated pulmonary emboli from undetermined sites and pleural effusion. She slowly improved and was discharged in satisfactory condition 4 weeks after operation taking digoxin and anti-coagulants. The final chest film was little changed from the admitting film and showed no resolution of the consolidation in the right upper lobe.[2]

Discussion

A thrombus lying free or partially attached in the left atriral cavity may intermittenly completely or partially occlude a stenotic mitral valve producing syncope, sudden severe pulmonary edema or death. Syncope is rare in mitral stenosis and its occurrence should lead one to suspect and search for an uncommon complication. Rapid progression of heart failure with mitral stenosis is suggestive of a left atrial mass particularly if there are periods of unaccountable improvement and production or relief of symptoms with changes in position.[2] Signs and symptoms of intracavitary masses are based on intermittent obstruction of one of the valve orifices, according to Lui and Musselman who quote Elson,[6] resulting in "comparatively rapid and transitory changes in the peripheral circulation, such as marked cyanosis or even gangrene which may involve the finger tips, toes or tip of the

nose. Cadaveric coldness may occur suddenly, and quickly improve or disappear. The disappearance of diminution of pulsations, not from one extremity but from several of them including both upper and lower, and their relatively rapid restoration . . . should be emphasized." Changing murmurs have been described as characteristic signs;[2,3] however, tachycardias frequently present making murmur evaluation difficult as in our patient. When obstruction of the mitral valve does not occur from the "ball valve" effect of a left atrial mass there are even less distinctive clinical features.

Radiographically calcification along the left atrial wall on plain chest films is associated with a high incidence of left atrial clots. Occlusion of a pulmonary vein by a clot may produce persistent unilateral pleural effusions.[4] Diagnosis can be established by angio-cardiography which will demonstrate opacification defects within the atrium on serial films[5]. The importance in recognition of intracavitary masses lies in the fact that they are amenable to successful surgical treatment.

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Use of Steroids in Treatment of Acute Hemarthrosis in Patients with Hemophilia C. T. Kisker and C. Burke, New Eng. J. Med 282:639-642 (March 19) 1970

Two double-blind studies were carried out to determine the clinical effectiveness of corticosteroids in the treatment of acute hemarthrosis in boys with hemophilia. The five-day course of corticosteroids was found to be of clinical benefit in each study. In unlimited replacement therapy significantly less replacement was necessary to achieve complete return of function. When replacement therapy was limited to the administration of a single dose of 25 units AHF/kg body weight, approximately 90% of patients in the corticosteroid group responded favorably, whereas 34% of the patients in the control group needed additional replacement for complete return of function to the joint. Immobilization and splinting were not used in the treatment of the joint; these measures tend to weaken the surrounding muscle structure and thereby increase the amount of physical therapy and time needed before ambulation and complete return of function are possible.

President's Page



This is written on the eve of the 1970 Annual Meeting. The incoming president should have the prerogative of reminiscing and philosophizing before facing up to the rigorous reality of the Presidency.

In the Musical, *Camelot*, the king awaits his imminent wedding and in soliloquy muses "they wonder what the king is doing tonight". "He is in his quarters being scared". Admittedly, there are bad moments contemplating the uncertain road ahead for medical doctors.

In my time there have been many radical changes and reforms and like the old cronies in the English House of Lords, "we have been against all of them".

The state has become socialistic. A controlled economy has leveled out the swing from inflation to recession without the devastating valleys of depression. Social Security has enforced savings for retirement in segments of the population not prone to be frugal.

Socialism made deep inroads into health care in the 1960s'. Medicare and Medicaid-Titles XVIII A and B and Title XIX became a reality. HEW, under the President's direction, now proposes an extension of Title XVIII to include preventive care- Part "C". Guaranteed minimal income, constituting income tax in reverse, is in the offing.

Organized medicine, through AMA direction, is offering an alternative to further federal government invasion into the health insurance field. The concept of Medicredit would allow tax credit for premiums paid by individuals to private health insurance carriers.

The concept of *Territorial Imperative*, inbred in all living things, becomes the dominant instinct for survival. The *Territory of Sickness Care* is the *Imperative* of organized medicine and on this possession we will stand.

Ben N. Miller,
M. D. President

Editorials

The Generous Prescriber

Whatever they may think basically about the various federal medical progrsm, honest physicians—and that means all except a very few—will endeavor to avoid any imposition on the rules and regulationa with which they must deal.

The occasional exception is emphasized by a recent case in which one patient received over the course of one year 334 prescriptions from one overly generous physician. The total cost amounted to $1180. The numerous prescriptions for the same drug in small lots added considerably to what might have been a much lower figure. A list of drugs and the number of prescriptions for them indicate with what a free hand they were given. Even a charitable view would lead to wondering whether the antithesis of therapeutic nihilism was productive of demonstrable results.

Drugs	Prescriptions
Hematinics	10
Antibiotics	25
Librium 25 mg	51
Sparine 50 mg	35
Sparine 10cc 50 mg	12
Tandenril & B	6
Seconal 1-½	29
Benylin Expc.	16
Inject. Analgesic	8
Oral Analgesic	38
Benadryl 50 mg	34
Mudrane	23
Elavil 25 mg	16
Dramamine	3
Soma	5

Annual Convention Notes

Myrtle Beach lived up to its cherished reputation. The weather was reasonably balmy; a few hardy delegates ventured into the surf, but not for long. The suntrap around the pool was more enticing.

The business of the Association ran smoothly, though it was unusually protracted. The new arrangement of sandwiching in the scientific program between two business sessions seems to have worked rather well. Even so, at some points the faithful seekers after knowledge were sometime in scanty numbers.

Social events were reasonably well attended at the Hotel and elsewhere. Senator Hollings had to send a substitute speaker, and two of the people scheduled for the scientific program also had to send replacements. The banquets were more satisfactory for their oratory than for their food content. Dr. Dorman, president of the AMA gave a satisfactory summary of the problems of the profession. The affairs of the Auxiliary went along smoothly.

After due process of consideration matters of business were concluded on Wednesday. Resolutions called for more training of nurses, for information to the public about various types of medical care. Most committee reports were adopted without change. The most fervid oratory of the session revolved around the resolution to ask the AMA to promote liberalization of laws concerning abortion, a resolution which was endorsed.

Discussion of setting up mechanism for peer review resulted in appointment of an ad hoc committee to plan implementation at the earliest possible moment.

Election of officers resulted as follows: for president-elect, Dr. John Booker of Walhalla; for vice president, Dr . Joseph Thomas of Denmark; for secretary, Dr. Strother Pope was re-elected, as was Dr. Howard Stokes as treasurer. Delegate and alternate delegate to the AMA, Dr. Thomas Parker and Dr. Harrison Peeples respectively, were returned to their offices. Councillors named were Dr. Waitus Tanner, 2nd District, Dr. Halsted Stone, 5th District, Dr. J. H. Atwill, 8th District. Most of the other officials were re-elected. For the State Board of Health, Drs. Wm. B.

Hunter and Winston Godwin replaced Dr. W. R. Wallace and Dr. O. B. Mayer (who declined renomination).

Dr. Ben Miller assumed the presidency. Dr. Harold Hope was re-elected Chairman of Council. A resolution that the offices of the Association be moved to Florence within the next five years was passed. Other matters of business were concluded in a session of the House which extended well into Wednesday afternoon, when the House and Council adjourned to make way, perhaps appropriately, for a convention of funeral directors.

A fuller account of the business of the Association will appear later in this *Journal.*

The Journal of the South Carolina Medical Association

50 YEARS AGO

June 1920

Dr. E. A. Hines, secretary, noted an increasing interest in County Medical Societies. He reported that 39 counties had a total of 664 members. Disbursements from the treasurer's office were reported at less than $1,200. Dr. Robert Wilson, chairman of the Executive Committee of the State Board of Health, noted that the General Assembly had appropriated $220,000 for the work of the State Board of Health. This raised South Carolina to the third place in per capita appropriation. One of the scientific papers was on autointoxication.



JOHN P. BOOKER, M.D.

SCMA PRESIDENT—ELECT

Dr. Booker was born just a "little bit north of South Carolina"— in the City of Charlotte, where he finished high school and attended Duke University. He soon came "South of the Border"—where he attended and received his M. D. Degree from the Medical College of the State of South Carolina—now the Medical University, graduating in 1936. After interning at Greenville General Hospital, he entered the formal practice of medicine in Walhalla, South Carolina, in 1938.

He entered the U. S. Army in January 1941 and served for four years, seeing action in Africa, Italy, and France, retiring as a Colonel in the U. S. Army Reserves in 1965. He is married to the former Frances Shumacher and they have three children, one of whom is a physician.

He has served his community in many civic capacities—President of Walhalla Rotary Club, two terms as Mayor Pro-Tem of Walhalla City Council, Official Board of St. Luke Methodist Church, Chairman of the Oconee County Aeronautics Commission, and member of the Oconee County Art Committee.

Professionally, he has been Chief of Staff and Chief of Surgery of the Oconee Memorial Hospital. He has served this Association as Councillor of the 4th District for 9 years, serving as Chariman of the Council in 1968-1969.

Dr. Booker has served the citizens of his community with honor and dignity for 32 years, he has served his county and the State Association with distinction.



DR. JOSEPH D. THOMAS
SCMA VICE PRESIDENT

Dr. Joseph D. Thomas of Denmark, a former member of Council of the South Carolina Medical Association has been elected vice president of SCMA.

Dr. Thomas is a native of Fairfax, S. C. He attended the Citadel and was graduated from Yale University in 1945. He received his M. D. degree from the Medical College of South Carolina in 1948 and served his residency at Jersey City Medical Center.

Dr. Thomas has been in the private practice of general medicine in Denmark since 1950. He is a member and past president of the Edisto Medical Society and on the staff of Bamberg County Hospital, Orangeburg Regional Hospital and Barnwell County Hospital.

ALUMNI OFFICERS

Dr. William P. Turner of Greenwood was elected president of the College of Medicine Alumni Assn. of the Medical University of South Carolina in Myrtle Beach.

Dr. Joseph D. Guess of Greenville was named "Distinguished Alumnus" for 1970 for the Medical University.

The special alumni activities were held in conjunction with the annual meeting of the South Carolina Medical Association.

Other alumni officers elected were Dr. Thomas W. Messervy of Summerville, president-elect; Dr. James A. Underwood of Newberry, vice president; Dr. Richard W. Hanckel of Charleston, secretary-treasurer; Dr. R. Maxwell Anderson of Charleston, District I director; Dr. James L. Walker of Clinton, District III director; Dr. John Ashmore of Greenville, District IV director; and Dr. John M. Rhame of Sumter, District VII director.

MEETINGS

A Postgraduate Obstetric-Pediatric Seminar will be held in Fort Lauderdale, Florida, August 27-29, 1970. For more information about the Seminar write to J. E. Padgett, Jr., M.D., M.P.H., Chief, Bureau of Maternal and Child Care, S. C. Board of Health, J. Marion Sims Building, Columbia, S. C. 29201.

– – – – – –

The Ninth National Conference on Therapies for Advanced Cancers will be held August 20-22 at the University of Wisconsin Post-Graduate Center. The conference is being sponsored by the Division of Clinical Oncology, University of Wisconsin. Chairman is Dr. Fred J. Ansfield. For information write to the program coordinator, Dr. R. J. Samp, University Hospitals, Madison, Wisconsin 53706.



Dr. Charles P. Summerall III of Charleston has been elected president of the South Carolina Heart Association. Dr. Summerall is assistant professor of medicine at the Medical University of S. C. and associate coordinator for heart disease and stroke for the S. C. Regional Medical Program. Also elected at the annual meeting were Dr. D. Glenn Askins, Jr. of Marion, president-elect and Dr. Rembert O. Burgess of Spartanburg, vice president. Dr. Ambrose Hampton of Columbia was elected to the board of directors. Dr. Frank F. Espey of Greenville, a neurosurgeon, has been appointed by the board of trustees to the advisory council of Furman University. Dr. Floyd Deen, Jr. has opened his office in Cheraw for the practice of general medicine. Dr. Deen was graduated from the University of Georgia Medical College. Dr. James Bowers, Clemson University staff physician, is serving in Vietnam under the AMA volunteer program. Dr. Travis B. Stevenson, Jr. has been elected to the Board of Trustees of Greenwood School District 50. Dr. Joseph P. Cain, Jr. of Mullins was recently elected first vice president of the Southeastern Surgical Congress. Dr. George R. Blalock has been relected chairman of the Bailey Memorial Hospital board of directors in Clinton. Recently elected to active membership in the American Academy of General Practice are Dr. Robert A. Pringle of North Charleston, Dr. Rion M. Rutledge of Rock Hill and Dr. Danny R. Blackwell of Kershaw. Those re-elected include Dr. Joseph F. Flowers and Dr. William P. McDaniel of Walterboro; Dr. Hazel Baker King, Dr. T. A. Timmons, Dr. R. T. Whitehead, Jr., all of Lake City; Dr. Max A. Culp and Dr. Robert A. Martin of Fort Mill; Dr. Warren Clay Lovett, Dr. Lloyd W. Luttrell and Dr. Mack Collier Poole of Spartanburg; Dr. Ernest Archie Perry of Clover; Dr. L. W. Douglas and Dr. William P. Kay, Jr. of Belton; Dr. Robert G. Mann of Easley and Dr. Aubrey D. Gantt of Williston.

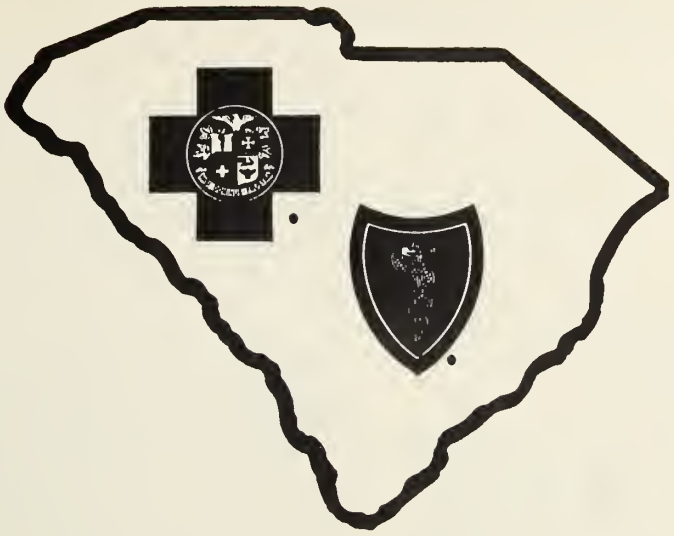
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*Source: Sixty-First Annual Report of The Department of Insurance of South Carolina.

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AMBULANCE SERVICES IN SOUTH CAROLINA

DABNEY R. YARBROUGH, III, M.D., F.A.C.S.*
MAX S. RITTENBURY, M.D., F.A.C.S.*

Introduction

In most areas of the country, emergency transportation facilities have evolved on local levels with little professional guidance. There has been growing awareness across the country in recent years that this method of development of transportation facilities has generally given rise to ambulance services that can no longer be considered adequate.

There has been considerable interest in recent years in methods of improving pre-hospital and emergency department care of the injured and acutely ill. Battle field experience has shown that an effectively organized and integrated system of transportation of injured patients to definitive care areas can and does result in the saving of a significant number of lives. A recent study of the effect of emergency transportation on patient survival has been conducted in Michigan.[1] This study suggests that nearly 18 per cent improvement in survival rate of acutely injured patients could have been effected had skilled resuscitation been rapidly available at the scene of the accident and during transit to the admitting emergency care facility. One of the many organizations interested in this aspect of medical care has been the American College of Surgeons and its Committee on Trauma. The South Carolina State Committee on Trauma of the American College of Surgeons recently has conducted a survey of ambulance services in the State of South Carolina. This study was conducted primarily for the following reasons: (1) To assess the present status of ambulance services in South Carolina, (2) to identify facets of the emergency transportation systems existing in South Carolina which are in need of improvement, (3) to suggest methods of effecting needed improvements, and (4) to stimulate interest on the part of citizens of this state both within the medical profession and without in improving and upgrading ambulance services in this state.

The purpose of this communication is to outline briefly the findings and recommendations of the survey.

METHODS OF DATA COLLECTION

The names and locations of 146 ambulance services in South Carolina were obtained. Each was queried as to their willingness to participate in the survey. Those willing to participate received a coded questionnaire for completion. The inquiry forms utilized were developed by the National Institutes of Health; Department of Health, Education, and Welfare and modified by the American College of Surgeons Committee on Trauma. Those who failed to respond to the initial query were requestioned. Many of the services listed reported that they in fact operated a funeral home or other business endeavor and had been misclassified. A few refused to participate in the survey. Each service participating in the survey was visited by a member of the committee conducting the survey and the completed questionnaire was reviewed with a responsible member of the individual service. Medical students at the Medical University of South Carolina, supported by the South Carolina Regional Medical Program, were employed for much of the data gathering. Visiting of the individual services by persons involved in data collection enabled first hand observations and impressions of personnel and equipment of each ambulance service to be recorded. These observations and impressions proved to be invaluable aids to the overall project. The raw data was then coded and tabulated. A total of 100 ambulance services were included in the final published survey.[2]

The questions included in the survey in general fell into six categories: (1) characterization of the

*From the Department of Surgery, Medical University of South Carolina, Charleston, S. C.

ambulance service. The ambulance services were classified as to method of management and ownership, profit or non-profit, business operation, purpose of the service and methods of financial support. (2) An analysis of the types and qualities of services provided. (3) Personnel staffing and training patterns, (4) equipment and maintenance, (5) relationship to other agencies and (6) the fundamental problems of the ambulance services in the state of South Carolina as assessed by the participating ambulance services. The remainder of the survey was concerned with an evaluation of the data and recommendations for improvement as suggested by responsible members of the committee

RESULTS

It was felt by the members of the committee that in order to provide truly adequate emergency transportation service to acutely ill and injured patients several criteria must be met by the ambulance service. These criteria included: (1) ambulance and equipment to conform generally to the standards promulgated by the American College of Surgeons and the Committee on Emergency Medical Services, Division of Medical Sciences, National Academy of Sciences, National Research Council.[3,4] (2) 24-hour service must be available. A driver and attendant as well as an adequately equipped emergency vehicle should be available on a 24-hour basis. (3) Both driver and attendant should have training comparable at least to the basic American Red Cross first aid course. (4) The ambulances should be equipped with facilities for two-way radio communications. It was found that only seven ambulance services in the state of the 100 completing the final survey met the above criteria. These services included two services in Charleston, in Columbia, one in Rock Hill, one in Myrtle Beach, and two in Anderson.

The majority of the services in the state were noted to be facing serious financial problems. This is indicated by the findings illustrated in Tables 1 and 2.

Many of the inadequacies in the qualities of services provided were felt to be directly related to the financial problems. In general, it was noted that the ambulances and equipment failed to conform to the

Table 1

Status Last Fiscal Year	Number
Showed a Profit	9
About Broke Even	18
Showed a Loss	65
Unknown	6
N/A	2

Table 1 typifies the financial condition of the ambulance services in the state.

Table 2

Most Difficult Income Problem	Number
Inadequate Payment by Those Able, But Unwilling to Pay	36
Inadequate Payment by Those Unable to Pay	17
Inadequate Fees	7
Other	7
N/A	33

Income problems as assessed by the ambulance service operators.

standards promulgated by the various national organizations interested in the problems of emergency transportation of acutely ill and injured patients. The majority of emergency vehicles were based on modified or unchanged station wagon or hearse bases currently commercially available. Vehicles of this type have been shown repeatedly to be inadequate for the proper in-transit management of acutely ill and injured patients. Only 39 per cent of ambulances in the state are equipped with two-way radio communications. Other deficiencies were legion. (Table 3)

Personnel staffing and training was felt to be a crucial problem. Working conditions and salaries for persons employed as ambulance attendants generally were noted to be much too low to be attractive to well-trained and well-motivated personnel. Adequate personnel cannot be attracted into such a poor job environment. This fact was well recognized by the participating ambulance services. Thirty-four per cent of the participating ambulance services felt that the emergency care training of their drivers and attendants was inadequate. There was a general inadequacy of training opportunities for ambulance attendants. Many

Table 3

Are All Vehicles Equipped To:	Number		
	Yes	No	Unknown
Splint Fractures	47	53	0
Control Hemorrhaging at Scene	51	49	0
With Dressings for Open Wounds	64	36	0
Supply Oxygen and Maintain Airway at Scene and in the Vehicle	77	23	0
Handle Emergency Births	26	74	0
With Half-Ring Lower Extremity Splint With Web Straps for Ankle Hitch	22	77	1
With Short and Long Back Boards with 2" Webbing Straps	14	85	1
With Hand Operated Bag Mask Resuscitation Unit with Adult, Child, and Infant Size Masks	29	71	0
With Simple Suction Apparatus with Catheter	32	68	0
With Mouth-to-Mouth, Two-way Resuscitation Airways for Children and Adults	45	55	0
With Oropharyngeal Airways	28	72	0

Ambulance equipment deficiencies.

services stated that they had attempted to obtain professional medical assistance in the area of ambulance attendant training and had been unsuccessful in doing so. Inadequate training of the ambulance attendants was revealed by the survey as being a widespread and crucial shortcoming.

Co-operative action between emergency transportation services, hospitals, physicians, law enforcement departments and other involved agencies is mandatory for the smooth and proper functioning of these agencies. Due to the nature of the services rendered and the emotional climate existing at the time of the emergency, conflicts among these various services may occur. Accepted orderly channels of communications, spheres of activity and geographic areas of responsibilities can do much to obviate difficulties in cooperative efforts. During the performance of this survey, it was evident that much improvement could be made in this facet of activities of ambulance services. The fundamental problems of ambulance services in South Carolina as viewed by the Ambulance Service operators and personnel were assessed. As previously indicated, the pivotal problem appeared to be a financial one. Fifty-four per cent of the ambulance services in the state considered suspending operations during the year prior to the survey, primarily because of financial difficulties. The one area in which the ambulance service operators seemingly failed to recognize their deficiencies was that of available equipment and vehicles. The majority of operators recognized the inadequacy of ambulance attendant training and were quite anxious to participate in corrective action in this area.

SUMMARY

It was apparent from the survey conducted that much improvement in the ambulance services in the state of South Carolina is desirable. Frequently, the responsibility for providing this vital service to the community has lain with persons and organizations with no qualifications or experience. It must be recognized, however, that this state of circumstances has very often arisen by default. Individuals, communities and professional personnel have evinced little interest in this problem in the past. Many firms currently operating ambulance services do so primarily out of a sense of responsibility to their community. Numerous firms have expressed their desire to terminate their ambulance operations, but feel they cannot

do so because no other ambulance facilities are available to the community. Abrupt termination of ambulance service to several communities has occured recently because of financial difficulties. If corrective action is not taken, this tragic occurrence will undoubtedly become more frequent. The majority of ambulance services surveyed stated that their financial difficulties become greater during each succeeding year.

The lack of guidance and standardization of ambulance design and equipment is to be deplored. Hearses and remodeled station wagons are in widespread use as emergency vehicles and are completely inadequate. Even the most basic first aid measures are difficult or impossible to carry out in these restricted and cramped quarters. Two-way radio communications were noted to be inadequate. Few emergency receiving units in this state are adequately prepared and staffed to manage properly serious emergencies without adequate prior warnings. In many instances prior warning is impossible without two-way radio communications. In summary, it was felt that the survey established the following facts of primary importance:

(1) In general, ambulance services fall short of the standards considered desirable for the proper emergency transporting of injured and acutely ill citizens of the state.

(2) The financial condition of many of the ambulance services is such that they are unable to underwrite the cost of necessary improvements.

(3) Insufficient experience and knowledgeable guidance has been provided to the ambulance services in the past to evolve ambulance systems of good quality.

(4) Public and governmental interest in the problems of ambulance services has been limited. Specific defects in the areas of training of ambulance personnel and attendants, communications, ambulance design and equipment are pivotal factors in improving ambulance services in the state of South Carolina.

It appears that the most immediate need of the ambulance services of this state is for better training of drivers and attendants. A training course for ambulance drivers and attendants throughout the state could be set up and operated relatively inexpensively. Several curricula for courses of this type have been outlined and standardized by national agencies and are available for organization of course content.[5]

The adoption of statutes regulating ambulance services on a statewide basis is a second area requiring urgent corrective action. A statute of this type is currently under consideration. This statute would set standards for ambulances, personnel, and equipment. Enforcement of the ordinance should be phased in over a period of several years in order to give ambulance services currently operating adequate time in which to comply. In fact, 75 per cent of the ambulance services participating in the survey stated that they felt a governmental agency should issue regulations for commercial ambulance service.

The financial problems of the various ambulance services must also receive consideration. Sources of support on the individual, private, local, state and national levels should be explored and utilized where possible. Much help could be gained by the establishment of local or regional councils of interested citizens devoted toward improvement of emergency health services in the concerned localities.[6]

The valuable participation of the members of the subcommittee on Transportation of the Injured, South Carolina State Committee on Trauma of the American College of Surgeons, in preparing the original survey (listed below) is gratefully acknowledged.

Richard Wilson, M.D., F.A.C.S., Chairman, Spartanburg.

Dabney R. Yarbrough, III, M.D., F.A.C.S., Co-Chair., Charleston.

Julian T. Buxton, M.D., F.A.C.S., Charleston.

C. Thomas Fitts, M.D., F.A.C.S., Charleston.

Frank Wrenn, M.D., F.A.C.S., Greenville.

Hugh Coleman, M.D., F.A.C.S., Marion.

James Allen, M.D., F.A.C.S., Florence.

A. J. Richards, M.D., F.A.C.S., Columbia.

In addition, we would like to acknowledge the assistance of the South Carolina Regional Medical Program coordinated by Dr. Vince Moseley in making the original survey.

Heightened public and professional interest in emergency services in South Carolina is a necessary prerequisite to the critical task of accomplishing the necessary improvements.

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6. Paetow, P.F.: Community emergency care advisory councils—how they work, what they accomplish. Bull Amer Coll Surg 19-22, January 1970.

Basal Cell Eipithelioma in Smallpox Vaccination Scar-K.A. Riley, Charleston. Arch Derm 101:416-417 (April) 1970

Only 45 cases of carcinoma appearing in smallpox vaccinations are in the literature. Basal cell carcinoma appeared in a smallpox scar 50 years after vaccinations in a 64-year-old man. Significant evaluation of their relationship at this time is impossible. Whether this is a casual occurrence or a definite sequela to smallpox vaccination cannot be determined from present knowledge.

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Dosage and Administration: *In the Female.* One 250-mg. tablet orally three times daily for ten days. Courses may be repeated if required in especially stubborn cases; in such patients an interval of four to six weeks between courses and total and differential leukocyte counts before, during and after treatment are recommended. Vaginal inserts of 500 mg. are available for use, particularly in stubborn cases. *When the vaginal inserts are used* one 500-mg. insert is placed high in the vaginal vault each day for ten days and the oral dosage is reduced to two 250-mg. tablets daily during the ten-day course of treatment. Do not use the vaginal inserts as the sole form of therapy. *In the Male.* Prescribe Flagyl only when trichomonads are demonstrated in the urogenital tract, one 250-mg. tablet two times daily for ten days. Flagyl should be taken by both partners over the same ten-day period when it is prescribed for the male in conjunction with the treatment of his female partner.

Dosage Forms: Oral tablets . . . 250 mg.
Vaginal inserts . . 500 mg.

*References available on request.

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DEATHS

Dr. Carr Tully Larisey

Dr. Carr Tully Larisey, 62, Hampton County physician, died May 12, 1970, in a Charleston hospital.

He was born in Charleston, and was a graduate of the College of Charleston and the Medical University of S. C. He served four years in the U. S. Army Medical Corps in World War II.

He practiced medicine in Hampton since 1932 and was, until his retirement, on the staff of Hampton General Hospital. He was past president of the Hampton County Medical Society.

Dr. Keith F. Sanders

Dr. Keith F. Sanders, 64, prominent Kingstree physician, died April 20, 1970.

Dr. Sanders was born January 4, 1906 in Charleston. He was a graduate of Charleston High School, The Citadel, and the Medical College of S. C.

He came to Kingstree in 1932 as an assistant to the late Dr. E. T. Kelley. He then entered private practice in Kingstree, and was engaged in medicine and surgery for 38 years.

He was a member of the American Academy of General Practice, the American Medical Association, the Williamsburg County Medical Association, and the South Carolina Medical Association.

He served with the U. S. Army during World War II.

Dr. Thomas W. Howell

Dr. Thomas Wellington Howell, 56, former commander of the Shaw Air Force Base Hospital, died March 29, 1970, in Columbus, Ohio.

He was plant physician of the Mansfield, Ohio, Fisher Body Division of General Motors Division at the time of his death. Under his command, Shaw Air Force Hospital was recipient of a Presidential unit citation, the first Air Force hospital group to achieve this distinction. He was born in New York, and was a graduate of Seton Hall University and Jefferson Medical College in Philadelphia. He completed his residency at Walter Reed Army Hospital.

He became commander of the Shaw Air Force hospital in 1960 and served in this position until his retirement in 1964. In 1963, he received the Shaw-Sumter Community Service Award. he was a member of the American Society of Internal Medicine and the S. C. Medical Association He was a director of the Richland County Cancer Clinic.

The recent deaths of Doctor Glenn B. Judd and Doctor A. G. Crumpler have left this community in dire need of additional physicians. The Chamber of Commerce is expending every effort to help. Inquiries as to a new group practice medical center are welcome.

For more information contact:
Albert Clay, Chairman
Committee to Secure Physicians
Fuquay-Varina Chamber of Commerce
Fuquay-Varina, North Carolina
27526 Telephone 919-552-5641 or night 552-2838.

Book Reviews



Current Diagnosis and Treatment, 1970: Brainerd, H., Krupp, M. A., Chatton, M. J., Margen, S.; Lange Medical Publications, 884 pages. $11.00.

This volume represents the eighth revision of a paperback manual oriented principally toward physicians in family practice and authored by 34 contributors, chosen mainly from practicing specialists who hold clinical appointments in the medical schools of the San Francisco Bay area. Although the authors' preface indicates their desire to provide "a useful desk reference" rather than a textbook, their product has the distinct flavor of a "crib course" in internal medicine. Individual chapters are devoted to brief articles in the fields of ophthalmology, otolaryngology, gynecology and obstetrics, and orthopedics. The surgically-oriented chapters discuss peripheral vascular diseases, diseases of the breast and disorders due to physical agents.

The authors have attempted to give a concise review of the basic features of each condition considered. There are few innovations in format. A number of tables are included, but these are of the standard design and content currently available in many other references In fact, most of these tables are reprinted from other publications, some of them mildly archaic. The table on chemical findings in metabolic and non-metabolic bone disease, for example, could profit from some revision since its original publication in 1956. Many articles include short lists of additional references which are generally well chosen. The index, although not exhaustive, is adequate.

It is perhaps inevitable that manuals of this kind will show certain disparities of emphasis that are in conflict with the clinical importance of the conditions described. An eighth edition, however, should show some progress toward minimizing this difficulty. This 1970 edition persists in allocating the same space to dracunculosis that it does to acute pericarditis. The treatment of coronary heart disease is far from adequate. There is no true discussion on the importance of emotional factors in the management of angina pectoris, and there is no mention of vein graft by-pass procedures in the surgical treatment of obstructive coronary disease.

At times, this volume could undoubtedly provide for the practicing physician a useful compendium of basic information. In most instances, the articles will not provide insight into the more complex questions of diagnosis and treatment that ordinarily would lead an experienced physician to consult a reference volume.

C. P. S.

Human Anatomy for Children by Ilse Goldsmith. Dover Publications Inc., New York 93 Pp. $1.25.

This latest Dover edition is presented in a straightforward, factual manner and should be very useful in explaining the basic facts of antomy and physiology to children.

The large type and 100 illustrations should help to make the subject matter very appealing to the youthful reader.

J. O. W.

Current Procedural Terminology; American Medical Association 535 N. Dearborn St., Chicago, Illinois 60610; $2.00 (payment must accompany order, quality discounts available); 368 pages; B. L. Gordon, M.D., W. R. Barclay, M.D., and C. Fanta, B. S.

Current Procedural Terminology (CPT), second edition, should be an invaluable aid to the physician in settling claims for compensation through insurance companies or Medicare-Medicaid. It is a uniform system of terminology and coding which provides him with a way to describe accurately and succinctly any diagnostic or therapeutic procedures he has performed.

It provides alphabetical and numerical listing of procedures and the use of special headings and sections.

The concepts and goals of the book have evolved from surveys and discussions by the Committee of the American Medical Association on Health Care Financing.

THE SOUTH CAROLINA REGIONAL MEDICAL PROGRAM ORGANIZATION AND PROGRESS

March 1966-March 1970

Background

In accordance with federal legislation, Public Law 89-239 of December 1965, the South Carolina Regional Medical Program was established and received a grant award for support in January 1967. The grant application was made by the Medical University of South Carolina upon the recommendation of an advisory group representative of practicing physicians, nurses, the State Health Department, the Department of Public Welfare, the Vocational Rehabilitation Service, the State Hospital Association, the S. C. Heart Association, the S. C. Chapter of the American Cancer Society, the State's educators and interested citizens for the purpose of developing a regional cooperative relationship involving the various professional, educational and health-related public and private agencies, to improve the care of patients with heart disease, stroke, cancer and related diseases.

Prior to the award of grant funds in August 1968 for the operation of projects an organizational and planning period was necessary. Interested groups and individuals participated in the efforts of this preliminary phase for some 23 months before an application for a project operation was submitted in February 1968 to the National Advisory Council of the Division of Regional Medical Programs. In May 1968 the program was approved by the House of Delegates of the S. C. Medical Association after previous approval by the Council of the S. C. Medical Association.

During the period January 1967-December 31, 1969, funds were provided by a planning grant to the Medical University of South Carolina for support of the regional office staff and for collection of data for planning and organizational activities of five study committees as were organized by the Regional Advisory Group in November 1967.

The "region" was designated to be the entire State of South Carolina in March 1966. At that time the boundaries of the region, the applicant grantee institution was designated, an acting coordinator was appointed (Dr. Charles P. Summerall III), and a Regional Advisory Group with by-laws and study committees were formed to insure geographical and agency representation and the development of cooperative arrangements.

Although the Medical University of South Carolina serves as the fiscal agent for all planning and program grants by which and through which application for awards are made and received from the Division of Regional Medical Programs, a division of the Health Services and Mental Health Administration of HEW, the proposals for and approval of all activities in the region are under the guidance and supervision of the Regional Advisory Group and its committees.

The By-Laws of the S. C. Regional Medical Program's Regional Advisory Group, were revised and adopted on February 5, 1969, and were subsequently amended on October 8, 1969.*

*By-Laws-page 213.

GOALS OF THE REGIONAL MEDICAL PROGRAM

The focus of the Regional Medical Program is on the patient. Its basic purpose is to better coordinate the existing health services in a manner that will permit the best in modern medical care for heart disease, cancer, stroke and related diseases to be available to ALL.

"Section 900 (Public Law 89-239). The purposes of this title are. . . THROUGH GRANTS, to encourage and assist in the establishment of regionally coordinated arrangements among medical schools, research institutions, and hospitals for research and training for demonstrations of patient care in the fields of heart disease, cancer, stroke and related diseases.

TO AFFORD to the medical profession and the medical institutions (of the Region), through such cooperative arrangements, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and

By these means, to improve generally the health manpower and facilities available (to the Region), and TO ACCOMPLISH these ends WITHOUT INTERFERING with the patterns, or the methods of financing, or patient care or professional practice, or with the administration of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate voluntary health agencies."

Regionalization

Regionalization means that, within a geographic area, each part of the health care system takes an active responsibility for working with other parts, so that strengths are shared and the quality of care is raised throughout the region.

Regionalization means that there are formal, active channels for speeding research knowledge from the medical centers to the community hospitals where most patients are treated.

Regionalization also means that preventive care, acute care, extended care and rehabilitative facilities are coordinated in a system based on the patient's needs.

For the best delivery of health services and care, there are many things that single institutions either can't or shouldn't do alone, and those require COOPERATIVE ARRANGEMENTS among the hospitals and other health agencies. Resources and facilities must be brought together within the region the people themselves have defined.

The concept of regionalization is basically cooperative relationships and coordination of programs between the Medical University, S. C. State Board of Health, community hospitals, health professions, voluntary health organizations, and all other essential elements of health care resources in South Carolina.

Projects focused on a single institution or local community are not regional in function as defined in P. L. 89-239.

An advance of knowledge often changes the nature of medical care. Regionalization is to be viewed as a continous process rather than a plan which is totally developed and then implemented.

The process of regionalization consists of at least the following elements:

Involvement-The support and cooperation of the project proposal by medical centers, community hospitals, individuals and organizations which provide health services within the region or an area of the region.

Identification of Needs and Opportunities—An analysis of the personnel and steps to be taken to provide for the best medical care in heart disease, cancer, stroke, and related diseases within the region may include: new activities, expanding current activities or arranging for the utilization of activities in other nearby localities by referral or consultation.

Assessment of Resources—Regional review of capabilities in existence in terms of function, size, number and quality. Assessment will also point up the absence of needed resources.

Definition of Objectives—What is the objective of the program, viz: to modify mortality, early diagnosis, habilitation? Are there secondary objectives such as trained personnel, public education, a new diagnostic aid?

Setting of Priorities—Limitations on resources necessitate assigning some order of priorities to the Region's objectives. Factors to consider include: (a) balance between what should be done first to meet needs, in absolute terms, and what can be done using existing resources and competence; (b) the potentials for rapid and substantial progress toward reaching the goals of RMP and regionalization; and (c) program balance in terms of disease categories, and in terms of emphasis on patient care, education and research. Should the program be broken down into phases such as first remodeling, training and recruiting, or obtaining consultation, or communication linkages, and then proceed at a second time period and with additional money to further development in order to reach primary objectives?

Implementation-The preceding steps should provide a base and means for initiating an operational project within a certain span of time.

Evaluation—Planning and operational activity of the Region must receive continuous quantitative evaluation as to whether the primary and secondary objectives are being reached as planned and whether the operation is efficient and providing values commensurate with cost. Is the project expanding into the area of the region, or is for some reason confined to a local operation, and if local, what needs to be done to expand its function in a broader manner?

Objective evaluation is simply a reasonable basis upon which to determine whether an activity should be continued or altered, and, ultimately, whether it achieved its purposes.

After implementation, two potential threats exist. One is that projects will lose their regional identities and the other is that projects will lose the relationships one to another.

Evaluation requires a realistic attempt to design activities so that, as they are implemented and finally concluded, some data will result which will be useful in determining the degree of success attained by the activity.

Two basic questions in evaluation:

What, specifically, does the project expect to accomplish?

What, specifically, will be evidence of success?

Suitable data reflecting service education or research accomplishments must be collected and reported by those responsible for the operation of it.

Fifty-five regions have been created throughout the country by representative groups who have defined the functional and geographic boundaries. These encompass the nation's entire population. Some consist of more than one state, some are portions of several states, some are only a part of one state, and some follow the exact boundaries of a single state, as we do in South Carolina.

The sponsoring organization or institution has varied. In some regions, it is a medical college or a group of medical colleges; in some regions it is a medical association, and in other regions it is a non-profit foundation created by a group of institutions or organizations.

The Medical University of South Carolina is the sponsoring agency for the South Carolina Regional Medical Program, and the goal of this project grant in accordance with the law has been to establish with the assistance of the RAG cooperative arrangements in the region by the Medical School, research groups, other medical facilities, and public and voluntary health agencies to provide improved patient care through:

A. Research and Training
B. Continuing Education
C. Demonstrations
D. Improvement of Health Manpower
E. Improvement of Facilities

The programs are not for local need alone but to serve the needs of the geographic and functional region (the State of South Carolina) or recognized Sub-Regions by cooperation with other health facilities and agencies in order to share resources, manpower, and to make more readily and easily available the services for which project support is sought. Where feasible cooperative arrangements should be coordinated with other health problems, but not to supplant or take over the support of others. This is regionalization of effort.

Projects which are eligible for grant support will not interfere with the patterns or methods of financing of patient care or professional practice or the administration of hospitals in accomplishing cooperation with practicing physicians, medical center officials, hospital administrators, and representatives of health agencies.

SCRMP Concept

To develop projects and programs for increasing the efficiency of health care at the local level under the immediate control and operation of the local community physicians who have applied for and received SCRMP planning and operational funds.

Is based upon LOCAL INITIATIVE and COOPERATIVE ARRANGEMENTS in the underlying belief that health problems are best attacked by those who are actually confronted with them—the physicians, hospital administrators, health organizations and allied health workers. The RMP programs do not direct but do monitor projects at a local level, and are able to serve the project by administrative support, technical advice, or arrange for professional consultation when requested.

Among the most important objectives recommended by the study groups and approved by the Regional Advisory Group are the following:

A. Emphasis on continuing professional education utilizing all interested community hospitals in a region-wide program and promoting the expansion of the activities of the Medical University of South Carolina towards this endeavor. The Medical University is in a phase of rapid expansion, and its resources will contribute greatly towards the delivery of new medical knowledge to the practicing physician through his own community hospital.

B. Encouragement of the application of continuous cardiac monitoring and related techniques of acute coronary care in community hospitals. Included in this objective also in an emphasis on the effective training of nurses, physicians and allied health personnel and a cooperative solution to mutual problems between the Medical University, community hospitals, and the South Carolina Heart Association.

C. Affirmation and support for the role of existing state-aid heart clinics as centers of excellence for patient diagnosis and management and in continuing education of physicians, nurses, and allied health personnel.

D. Promotion of comprehensive care programs for stroke victims.

E. Development and evaluation of methods of population screening for risk factors related to stroke and ischemic heart disease.

Each of the aforementioned objectives will be developed in cooperation with the Heart Disease Control Section of the State Board of Health, the South Carolina Heart Association, and the State Agency for Vocational Rehabilitation, as well as with community hospitals, and the Medical University of South Carolina. Each has resources to contribute to these endeavors and each has expressed considerable interest in these undertakings.

F. In the field of cancer, it was recommended that program objectives center around a strong cancer clinic system in the region, each serving as a center of excellence for patient care and education. Appropriate projects suggested included cancer screening services, patient-oriented tumor registries, and cooperative treatment programs requiring specialized management. The South Carolina Division of

the American Cancer Society and the Cancer Control Section of the State Board of Health support the existing cancer clinics and will contribute greatly to the meeting of these objectives.

G. In the field of the allied health professionals, it was recommended that the South Carolina Regional Medical Program support regionally oriented efforts of recruitment by the School of Allied Health Sciences at the Medical University and the Health Education and Recruitment Project sponsored by the South Carolina Hospital Association.

H. Another recommendation was to encourage and assist the efforts of community hospitals and professional organizations to develop more effective definitions of job categories and more efficient methods of patient care through encouragement and assistance in efforts of community hospitals and professional organizations. Finally, this recommendation recognized that SCRMP should be involved in supporting in-service education programs related to the care of patients with heart disease, cancer, and stroke, especially by facilitating the use of audio-visual aids.

It is obvious that there is substantial regional orientation throughout the listing of objectives as they were originally drawn together. In an effort to firmly establish a regional cooperative arrangement between professional people, institutions, and organizations, several projects have already been implemented. Significant cooperation has been indicated in the development of operational activities. Every effort is being made to identify projects as they develop as regional activities rather than allowing them to become institutionally oriented. At this point in the program, it can only be said that the design of the regional objectives has been partially met. It is recognized that both planning and evaluation are continuous efforts. The Regional Advisory Group will continue to review the resources, the priorities, the objectives, and the development within the region and evaluate the progress of the program.

The Regional Advisory Group of the South Carolina Regional Medical Program recognizes its responsibility for guiding the development of the Regional Medical Program in this state in such a way that there will be total involvement and cooperation between individuals, organizations, and institutions toward the ultimate achievement of objectives set forth in the beginning. It recognizes further that this is a continuous process with regular recognition of goals, resources, and objectives as well as periodic evaluation of the results of activies. In the opinion of this Regional Advisory Group, there is a definite indication of significant cooperation between individuals, institutions, and organizations throughout the region rarely achieved without unusual effort. The ultimate goal of delivery of better health care in the fields of heart disease, cancer, stroke and related diseases to people throughout the region is readily visible to all persons who have been involved in planning and implementing the South Carolina Regional Medical Program to this point.

Objectives

Currently the following have been established as ways by which the goal of the RMP is believed to be most readily achieved in respect to the categorical diseases and the needs of the region in respect to the objectives adopted by the RAG at is annual meeting on Oct. 8, 1969:

1.Continuing Education For Physicians

A. Develop a region-wide hospital based organization of Directors of Medical Education, with the interest and support of local medical societies and hospital staffs to encourage the development of educational techniques of value to professional personnel.

B. To encourage and support the development and expansion of programs of post-graduate and continuing education by the Medical University of South Carolina.

C. To develop a reference library for educational aids of all types for the region, preferably based at the Medical University

of South Carolina.

2. Heart Disease and Stroke

A. Increase the knowledge and utilization of cardiac monitoring techniques in hospitals in special units by trained staff.

B. Programs for training of staff in these techniques.

C. Utilize such hospital programs and staff as a nucleus for further educational activities of a professional aid for community and preventive purposes in relation to heart disease, stroke, and related diseases.

D. Consider the development of a study of risk factors and screening studies as part of preventive program.

E. Promote more comprehensive programs for acute and chronic management of patients with stroke.

F. Support and assist the State Aid Heart Clinics as centers for patient diagnosis, management, and as centers for continuing education and strengthen the cooperative support of these clincis in association with the interest and efforts of the Heart Disease Control Section of the State Board of Health, the S. C. Heart Association, and the State Agency for Vocational Rehabilitation.

3. Cancer

A. Close liaison and support of eleven (11) operating State Cancer Clinics in their programs for diagnosis and management of ambulatory and hospitalized patients, and encourage cancer screening services, tumor registries, cooperative programs for treatment and close liaison with the Cancer Control Section of the State Board of Health, and the S. C. Division of the American Cancer Society. Education programs as part of patient care are to be developed and strengthened both for physicians, allied health personnel, and the public.

4. Nursing and Allied Programs

The shortage of physicians in South Carolina is compounded by an equally evident shortage of nurses and allied health personnel. A. The Regional Medical Program wishes to find means of increasing the efficiency of utilization of allied health personnel to improve physician-prescribed programs for heart disease, cancer, stroke and related diseases. B. Encouragement of recruitment efforts of the Medical University of South Carolina for nursing schools, Allied Health Sciences, and the efforts of the South Carolina Hospital Association.

C. Promote educational programs of a local or on-the-job, or in-hospital experience type to improve the understanding of the problems associated with the management of patients in the hospital, clinics and physicians' offices, of allied health personnel and nurses for the categorical diseases, and, in its broader aspects, the improvements generally of patient care which may result. D. Procure the services of a consultant in Nursing on the staff of the SCRMP to:

1. Function as advisor and consultant to nurses involved in SCRMP projects;
2. Organize and initiate consultant services to nursing service groups in areas relating particularly to in-service education, training programs and nursing utilization;
3. Establish liaison to professional nursing groups and other allied health groups, especially where nursing representation is indicated;
4. Aid in development of projects involving nursing personnel;
5. Advise SCRMP staff of developments in nursing service and education that have bearing on the SCRMP;
6. Consult with the Associate Coordinator for Continuing Education in initiation of programs for allied health personnel.

E. Support activities for the development of community hospitals as centers for medical education and for cooperative diagnostic and treatment programs, also to clarify the relationship of community hospitals in their relationship to public and private agencies and in community decision-making processes, and to obviate many of the substantial obstacles to closer interhospital cooperative efforts and programs.

STATE AND DISTRICT HEALTH PLANNING — THE ROLES OF REGIONAL MEDICAL PROGRAM, COMPREHENSIVE HEALTH PLANNING AND THE PHYSICIAN

VINCE MOSELEY, M. D., Coordinator
South Carolina Regional Medical Program

The practicing physician's role in the Regional Medical Program and Comprehensive Health Planning, and in planning for health, often seems surrounded by a certain vagueness and is encumbered with unfamiliar terms and organizational structures. To clarify the relationships between the SCRMP and the Comprehensive Health Planning 314 (b) Community or District Health Planning Councils which are now being organized throughout the United States, as well as in this State, and the meaning of the ten Sub-State Districts for Regional Planning established by Governor McNair on March 12, 1969 in accordance with Act 487 of the 1967 S. C. Legislature it is necessary to review some of the background information about these. These also have implications relative to the procuring and utilization of Federal funds in these districts and by various agencies within the districts of the state. Fiscal policy was given in three policy statements published in Bureau of the Budget Circulars A-80, A-82, and the latest A-95 of 1969 and are also matters which need to be considered in understanding these relations.

In 1965, by Public Law 89-239, the Regional Medical Program was established to develop regional cooperative arrangements for research and training and related demonstrations of patient care in the fields of heart disease, cancer, stroke, and related diseases, and to afford the medical profession and medical institutions, through cooperative arrangements by regional functional arrangements, an opportunity to bring to their patients the latest advances in diagnosis and treatment, and to improve the health manpower and facilities. Grants are authorized by the law to public, or non-profit educational or other agencies, to plan and conduct feasibility studies and to conduct pilot studies in order to establish Regional Medical Programs. These programs are cooperative arrangements involving public or non-profit private institutions or agencies engaged in the diagnosis, treatment, training, and a research institute and hospital must be in the group. Such a regional program must be guided by an Advisory Group representative of practicing physicians, health care institutions, various health professionals other than physicians, and representatives of public and voluntary health agencies, as well as competent, informed and interested citizens. Individual projects are studied, reviewed and finally approved by the Regional Advisory Group and its several committees for submission to the National Council of the Division of Regional Medical Programs of the Health Services and Mental Health Administration of the HEW for funds for project grants to a non-profit or public institution which together make up the program of the Region.

A regional office staff assists in the development of the program and projects, but functions within the guidelines established by the agency to whom administrative responsibility is given for fiscal accountability in management of the grant funds allocated for overall support of the program and the operational projects of the program. For South Carolina the Medical University of South Carolina is the fiscal agent or grantee.

Comprehensive Health Planning functions as a result of PL 89-749, enacted in 1966, and the Partnership for Health Act PL 90-174 of 1967 as an integral part of this.

The aim of these laws is to establish a

framework of planning with both private and public support for coordinated comprehensive *health services* at the local and State level by means of certain provisions of sub-sections of the Law which provide funds as formula and project grants.

Formula grants are provided for under Section 314(a) to states to establish State Planning Councils and State assistance for individual facilities in their planning.

Section 314(b) authorizes project grants to public or non-profit agencies with governmental representatives for sub-state or local planning.

Section 314(c) also through project grants for training and demonstrations.

Section 314(d) and (e) authorize formula grants and project grants for public health services and service developments.

The Medical District Advisory Group members to the SCRMP are selected by the Council of the S. C. Medical Association from physicians. Others are representatives selected by public and voluntary health agencies, and a group are elected with interest in the categorical diseases. Their purpose is to encourage the development of programs and projects to facilitate the flow of information to practicing physicians to improve the quality of medical care of the categorical diseases. There is no relationship by law of the RMP to any State agency or governmental body other than to the grantee institution and the Regional Advisory Group. Cooperation with other agencies is implicit in its guidelines, however.

The Advisory Group of the Comprehensive Health Planning by law must have a majority of non-professional or lay members broadly representative of all economic and social groups, and the emphasis is on State and local planning, so that more effective and efficient use of acknowledged scarcity of medical resources as compared with an increasingly urgent public demand can be better planned for and met through cooperative community effort. Comprehensive Health Planning also must have governmental representatives as members of its State and local councils.

Both programs stress the necessity and importance of developing the activities to be sponsored in cooperation with practicing physicians, and non-interference with the private physician-patient relationship, and both can overlap and could conflict and compete.

Each agency, though under the Health Services and Mental Health Administration of the HEW, is under a different director within that agency, and each is a distinct entity fiscally and administratively. Comprehensive Health Planning expenditures in accordance with Bureau of the Budget Circular A-80 and A-95 must be approved by the state and local approving agencies with governmental ties, and these agencies, it is contemplated, will also become the local and state recommending and approving agencies for a variety of other federal funds. Programs are planned for by these Comprehensive Health Planning agencies as components of an overall State and District Plan.

Regional Medical Programs, by Bureau of Budget Circular A-95, is distinctly excluded from this provision of Comprehensive Health Planning agency review, although this may in time be changed.

Although both are separate agencies, with separate yet also somewhat overlapping goals, there is nothing in the laws establishing these to require cooperative efforts, but voluntary cooperative efforts are not excluded. In fact, in a 1966 Senate Committee Report, such cooperative effort was suggested, namely that Comprehensive Health Planning should complement the specialized planning of Regional Medical Programs and Hill-Burton programs, but not replace either. This report also suggested that "the State Health Planning Agency (314 (a) Agency of Public Law 89-749) provides the mechanism" for coordinating and relating these efforts.

At the Airlie House II meeting, held in Warrenton, Virginia on September 29, 1969, Dr. Joseph English, Director of the Health Services and Mental Health

Administration, expressed the following:

"I have some convictions about what I hope will lead to some administrative actions very quickly in Health Services and Mental Health Administration. The *health care problems* we see as essentially *a local problem.* Although the issues of resources and jurisdiction are more than a local problem, in the final analysis the problem must be identified and solved by the community alliance of the consumers and purveyors of health care. *This, I think, is the greatest strength of the Regional Medical Programs.*

"In these experiences are also developing a kind of technology. The development of a primary health care effort, or the design of related health care systems are really not adequately taught in any university or school. The people who think they know something about this area and consider themselves experts are, in my opinion, dangerous. They offer us some of the new credentials in this field and what they call definitive models. But it is not the people that have the new credentials that have the expertise. When it comes to the technology and working out the problems of medical care as Health Services and Mental Health Administration must do, *we are going to be looking more and more to the Regional Medical Programs for help.*"

"*When communities have a problem in health, they want to look for somebody to help them. We need to have an increasing capacity to point them in the right direction.* It is not enough to tell them to call their local medical society or hospital or medical school. We could, instead, tell them to call their *local Regional Medical Program because* that organization brings together the practice of medicine, medical societies, the hospitals, the medical schools, and everyone else they are trying to reach in one functional organization. That group should be willing to sit down and help the community try to tackle its problems of primary or other levels of health care. I would love to see such an effort develop in Health Services and Mental Health Administration and at the regional level with the touch point being your Program (the RMP), or one of its sub-regions. . . . We have a big responsibility to keep all aware of why health is different and cannot be considered in the same light as some other issues. The fact that too many important and powerful people thought that providing health care was like making shoes or producing television sets is part of the reason why we have the big problem we have today."

"If we really want to try to develop a decentralized, decision-making effort that faces the private sector of health in this country and maintains a good interface with it, I cannot think of a more creative mechanism for doing that on a regional, sub-regional and local level than with the 55 Regional Medical Programs. . ."

Concerning the practicing physician's role in all of this, there shall be cited some excerpts from the "Report of Reference Committee A" of the AMA Council on Medical Service, given at the AMA meeting in Denver, November 30—December 3, 1969, as being indicative of the sentiment of the AMA.

"Not only are medical associations involved in comprehensive health planning, but have been the initiating force in many Regional Medical Programs. Not only is there a body of AMA policy clearly urging physician and medical society involvement in both programs, but this Council has published a guide for physician participation in Areawide Health Facility Planning." The Council believes that the importance of continuing physician and medical society participation in both programs cannot be over-emphasized,". . so that the medical profession's voice in these programs will be a consistent one for cooperative and voluntary planning in all facets of health care."

The By-Laws of the S. C. Regional Medical Program reflect the principle of district planning and representation in the following provision:

Local District Committee

"Duties: The duties of the Local District Committee will be to evaluate local needs

and to stimulate local projects and programs commensurate with the overall purpose of the South Carolina Regional Medical Program.

Membership: A committee shall be formed to represent each of the ten (10) SCRMP Medical Districts and *each committee shall be composed of not less than seven members, of which two shall be the RAG members appointed by the Council of the S. C. Medical Association.* The two RAG members shall appoint other committee members of the District. Individuals other than physicians should be represented on the committee."

In accordance with these provisions; the SCMA designees were appointed in early 1969. However, the non-physician appointments have not been completed as members of all the District Committees.

On October 22, 1969, the Council of the S. C. Medical Association passed the following resolution:

"THAT the SCRMP proceed to organize the Medical District Committees and that the members of these committees be recommended to the Directors of each of the ten (10) planning districts, as now organized in the State, to be considered for appointment by the Planning District Councils to be members of the health planning councils or committees of their respective districts."

"It is recognized that the Medical Districts of the SCMA do not exactly coincide with the Planning Districts established by executive order of Governor McNair, but until a change in the boundaries of the Medical Districts can be made, the deviations are not thought to be significant and the SCRMP committees it is believed, can adjust to this without too much difficulty."

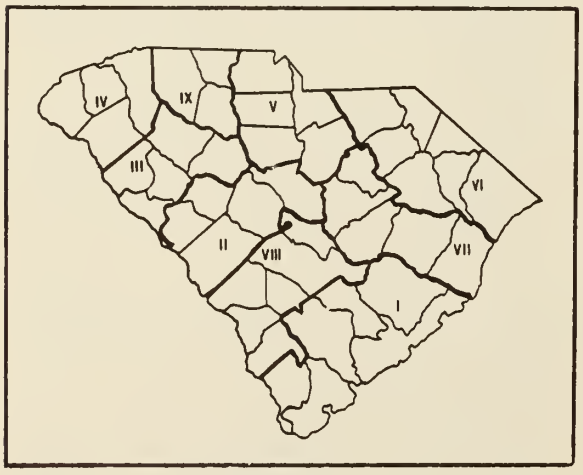
It is felt the future development of health care programs in South Carolina will intimately involve the Governor's sub-state planning districts. Therefore, it is strongly felt by the S. C. Regional Medical Program that a close working relationship with all parties involved should be established.

In March 1969, Governor McNair established ten (10) sub-state districts based on a study conducted by the State Planning and Grants Division of the Office of the Governor.

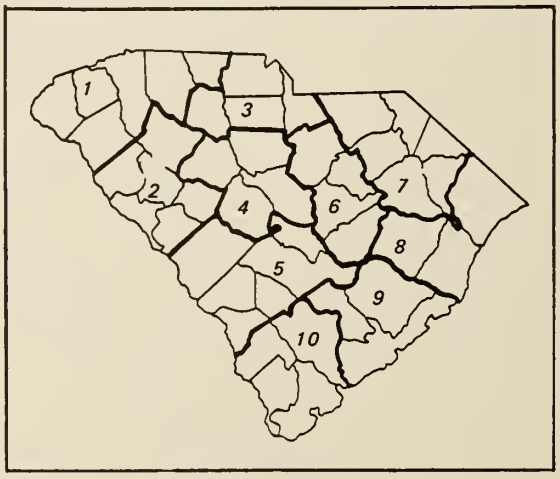
The following contains excerpts taken from this study which provides the background which led to the development of the sub-states.

These sub-states will serve as a framework upon which all State programs of an area-wide nature will be based. In addition, this pattern will serve as a framework for the coordination and utilization of federal programs which require a multi-county approach.

Background: Many of the problems and opportunities to which South Carolina cities, towns and counties must respond cannot be dealt with effectively by these



SCMA Districts



Sub-State Districts

COUNTY MAKE-UP OF RMP DISTRICTS

	Sub-State District
RMP District I:	
Beaufort	10
Berkeley	9
Charleston	9
Colleton	10
Dorchester	9
Jasper	10
RMP District II:	
Aiken	5
Edgefield	2
Lexington	4
Richland	4
Saluda	2
RMP District III:	
Abbeville	2
Greenwood	2
Laurens	2
McCormick	2
Newberry	4
RMP District IV:	
Anderson	1
Oconee	1
Pickens	1
RMP District IV-a:	
Greenville	1
RMP District V:	
Chester	3
Fairfield	4
Kershaw	6
Lancaster	3
Spartanburg	1
RMP District VI:	
Chesterfield	7
Darlington	7
Dillon	7
Florence	7
Horry	8
Marion	7
Marlboro	7
RMP District VII:	
Clarendon	6
Georgetown	8
Lee	6
Sumter	6
Williamsburg	8
RMP Districts VIII:	
Allendale	5
Bamberg	5
Barnwell	5
Calhoun	5
Hampton	10
Orangeburg	5
RMP District IX:	
Cherokee	1
Spartanburg	1
Union	3

local governments individually. Regardless of the categories into which these problems and opportunities fall—whether social, economic, or physical—an effective response to ehm, in many cases, requires the bringing together of resources which are beyond the capacities of the individual governmental units.

In addition, effective responses to certain situations increasingly require the close collaboration of the State government and its political subdivisions. The establishement of numerous multi-county and multi-state organizations in recent years in virtually every section of the United States is part of a growing recognition of the utility of the regional or area-wide approach. These organizations are evidence that coordinated, multi-government, area-wide action is increasingly viewed as a necessary and practical way of dealing with the many matters whose impacts extend beyond the limits of individual governmental units.

There are numerous concepts of how the State's counties should be grouped for a great variety of purposes.

Some of the existing patterns were defined initially to meet Federal program requirements. Others have been established by various State agencies to administer the programs for which they are responsible. Congressional districts and State senatorial districts have been created to serve the political processes. Still others respond to certain physical characteristics of the State, such as the climatological areas.

Objective: In developing the sub-state district pattern, the objective of the State government was to determine groups of

counties which could work together and which could have reasonably common economic, physical, social, governmental and other interests.

The State Government's basic purpose in defining the one official district pattern, in summary, was to provide a uniform geographic framework within which the planning, programming, and delivery of services by State, Federal and local government instrumentalities might be undertaken.

Development: The ten-district pattern, resulting from lengthy deliberation by and with many varied interests, was made official by the Governor on March 1969.

In order to support the goals and objectives of the plan adopted by the Regional Advisory Group, the staff of the S. C. Regional Office have been organized so as to provide for administrative and professional support to ensure quality programs in accordance with the goals and priorities established by the Regional Advisory Group for the categorical diseases, and for continuing or post graduate education directed towards the needs of the health professions and the technical and health occupation groups in the region. In addition to aiding in the development of grants for specific projects and ensuring the quality of the operation of such projects by staff and other supports supplied to the directors of projects, the Regional Office has encouraged the development of regional cooperative support through the interest and activities of the Medical University staff and faculty, state and voluntary health agencies, the State Medical Association, various professional societies, educational institutions of higher learning, and local groups, and competent individual community leaders.

The South Carolina Regional Office staff are administratively organized so that operational, planning, feasibility and pending projects are under the supervision of the appropriate staff section and Associate Coordinator to whom is delegated the responsiblity for qualitive evaluation of each project within his section, in consultation with the members of the appropriate committee of the RAG. Financial and other non-professional administrative supervision is as assigned to the project field staff of the Regional Office as a staff support function.

Currently, Associate Coordinators have been appointed for the Heart Disease and Stroke Sections, Cancer, and Continuing Education. The position of Associate Coordinator for other Related Disease is vacant.

A new section, *Medical Districts Program Planning Section* of the SCRMP Regional Staff Office, was established in January 1970 in order to develop a sub-regional functional capacity. This section will provide support to the operational needs of the Medical District Committees, and is in accordance with the recommendations of the Executive Committee of the RAG at their meeting on October 8, 1969, and the By-Laws of the SCRMP.

The Medical Districts Program Planning Section of the S. C. Regional Office Staff has been organized with an Associate Coordinator to serve as staff administrative head of the Medical Districts Programs Section. The duties of the Associate Coordinator for Medical District Programs and his staff will be to aid by various types of support the organization of the ten Medical District Committees, and to aid these committees in liaison activities directed towards working with the ten Planning Districts and their Health Planning Councils, or CHP organized in South Carolina which will be responsbile for the purpose of identifying, planning for and encouraging the development of local health service programs. Project planning and approval in these districts are as designated by law for economic, transportation, law enforcement, environmental health and other district health needs and programs. Specifically, the District Medical Committees will be the focus through which and to which these Councils should refer projects which meet the goals and priorities of the RAG for study and endorsement. The Districts

Committee will refer projects to the proper categorical staff section for study of objectives, evaluation processes, as well as for the soundness and feasibility, and regionalization implications. Where appropriate, the project will then be referred to the categorical or special committees of the RAG responsible for further study and recommendation of the project to the RAG for approval in accordance with procedural rules of the SCRMP and the Division of Regional Medical Programs. In order to make more effective the efforts of the District Medical Committees, and to ensure coordination of the various categories of SCRMP operational projects within the sub-regional areas of the State as such sub-regions may encompass two or more Planning Districts, the Coordinator of the S. C. Regional Medical Program will organize sub-regional offices to be headed by Assistant Coordinators.

The Sub-regional Office for Districts 1 and 2 and 3 will be in Spartanburg. For Districts 4, 5, and 6 the office will be in Columbia. For Districts 7 and 8 the office will be in Florence, and for Districts 9 and 10, in Charleston as part of the Central Regional Office staff function.

Clerical and administrative staff support will be established in a sub-regional office to facilitate the work of the Assistant Coordinators in the sub-regional offices.

The present State Planning District Sub-regional Organization and the makeup of the county groupings are by Executive Order of the Governor and could be changed by a new Governor after legislative action is taken, as is now pending, to establish these districts by Act, but it is suggested that due consideration be given to establishing the Medical Districts in accordance with the planning districts, especially in view of the fiscal implications that these districts will have in the future allocation of funds for local needs as these relate to to health services and health facilities in the use of Federal and other public funds. Recent advisory bulletins issued by the Bureau of the Budget are paraphrased to indicate why this is believed to be of concern to the S. C. Medical Association and its members.

Bureau of the Budget Circular A-95, July 24, 2969

The Bureau of the Budget is best known as the President's budgetary watchdog, but is also concerned with coordination of Federally supported programs. It promulgates memoranda from time to time which are binding on all Federal agencies in the Executive Branch. In recent years, two such memoranda, numbered A-80 and A-82, have been of importance to health planning agencies. A-80 provided for a review by the Governor of any regions established for administration of Federally supported programs. A-82 provided for a review of several types of construction and planning grants by the designated regional planning body established under the provisions of Section 204 of the HUD legislation. Areawide health planning was originally included under the review provision of A-82, but was removed from the list subsequently. The new circular, A-95, supersedes both A-80 and A-82, and again places 314 (b) agencies under review by the designated regional planning body serving their area.

The Circular strengthens the wording of former BOB Circular A-80 pertaining to the coordination of planning in multi-jurisdictional areas; and it expands the former Circular A-82 to set up a system for a state, regional, and metropolitan planning and development clearinghouse to include areawide health planning grants within the review function of these agencies, and to provide governors the opportunity to review and comment on State Plans prepared as condition for receiving assistance under Federal formula grants. The coverage of the Circular is quite broad, and includes virtually all Federal programs which provide assistance for planning on a multi-jurisdictional basis, or the construction or improvement of capital facilities.

"Service" type programs receiving Federal assistance are not included, and

hence Regional Medical Programs and Health Services Development Projects are not now subject to the provisions of the Circular.

The three constituent parts of Circular A-95 are described below as they apply to comprehensive health planning agencies:

Part I: Project Notification and Review System

The purpose of this part is to encourage the development of a network of state, regional and metropolitan clearinghouses to aid in the coordination of Federal or Federally assisted social, economic and physical development projects and programs with local planning for orderly growth and development.

Procedures are set up whereby applicants for Federal assistance under a covered program must notify the appropriate clearinghouse agencies (State and regional or metropolitan) of its *intention* to apply for assistance. Such notification will include a summary project description and the estimated date of formal submission.

The functions of the clearinghouse agency include receipt and dissemination of notification to appropriate public agencies and local governments; coordination and liaison between applicants for Federal assistance and state agencies or local governments in conferring and commenting on projects; and evaluation of the significance of the proposed Federally assisted projects to the state, region or metropolitan area.

Comments made by or through the clearinghouse agency will include information about the proposed project's consistency with the comprehensive planning being done in the area, and the extent to which the project contributed to achievement of the objectives of the area.

In addition to the above coverage of grant-in-aid programs, this Circular provides that Federal agencies administering programs requiring a state plan as a condition of assistance will require that the Governor be given the opportunity to comment on the relationship of such plans to other State Plans and programs.

Part II: Coordination of Planning in Multi-Jurisdictional Area

This part is to encourage and facilitate the coordination of planning among State, regional and local agencies undertaking comprehensive and functional planning activities. Such coordination is sought to eliminate overlap, duplication and competition among the different planning activities within an area being assisted through Federal programs and to encourage more effective uses of State and local resources available for planning, and by encouraging States to exercise leadership in delineating and establishing a system of planning and development regions in each state.

This Circular continues the requirement that prior to the designation of any planning region under any Federal program the governor of the state or states in which the region is located shall have thirty days in which to comment upon its relationship to planning and development districts or regions established such planning areas, the boundaries of the proposed planning area will conform to them unless there is clear justification for not doing so.

Application procedures will incorporate provisions requiring:

1. Identification of planning activities being carried on for related programs within the multi-jurisdictional area, including those covering a larger area;

2. Evidence of explicit organizational or procedural arrangements established or being established by applicant to assure maximum coordination of programs within its area which might include joint or common boards of directors, planning staffs, common referral or review procedures, information exchange, etc.;

3. Evidence of cooperative arrangements for joint or common use of planning resources (funds, personnel, facilities and services, etc.) among related programs;

4. Evidence that the planning being Federally assisted will proceed from base data, statistics, projections and assumptions that are common to or consistent with



hat she really needs, Doctor, is a shot of penicillin."

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NOTE: *The high therapeutic index of Trocinate permits its administration in dosage sufficient to relieve smooth muscle spasm promptly. 400 mg. dosage usually creates a therapeutic blood level. In reducing dosage after relief, lengthening the time between dosage rather than lessening the recommended dose is preferable. The prompt direct action allows a consciousness of the first suggestion of return of symptom . . . a guide to dose spacing and to determining when treatment is complete. A prescription for twelve or sixteen 400 mg. tablets will usually correct spasm and leave a few tablets for a reserve.*

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those employed for planning by related programs within the area.

Part III: Grant-In-Aid Information

This part serves to centralize and simplify the transmittal of information to state governments on grants-in-aid made within the states.

It requests that the governor of each state, in consultation with the legislature, designate to the Bureau an agency of the state to serve as a central point for the reception of grant-in-aid information from Federal agencies, and to specify those Federal grant-in-aid programs on which information will be required. The designated central information agency will be responsible for distributing to the Governor, the State Legislature, and appropriate State agencies the information provided by Federal agencies, and assuring that this information is made available to regional and metropolitan agencies and to local governments of the state.

BY-LAWS

I. Identification

The name of the organization hereby constituted shall be the Regional Advisory Group (RAG) of the South Carolina Regional Medical Program (SCRMP). The Regional Advisory Group selected the Medical University of South Carolina to be the grantee institution.

II. Purpose

Through grants, to encourage and assist in the establishment of regional cooperative arrangements among medical schools, research institutions, and hospitals for research and training (including continuing education) and for related demonstrations of patient care in the fields of heart disease, cancer, stroke, and related diseases.

To afford to the medical profession and the medical institutions of South Carolina, through such cooperative arrangments, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and

By these means, to improve generally the health manpower and facilities available in South Carolina, and to accomplish these ends without interfering with the patterns, or the methods of financing, of patient care of professional practice, or with the administration of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate voluntary health agencies.

III. Functions of the Regional Advisory Group

The functions of the Regional Advisory Group will be: (1) To involve the South Carolina Medical Association and local medical societies, the South Carolina Hospital Association, the South Carolina Heart Association and local units, the South Carolina Division of the American Cancer Society and local units, the South Carolina State Board of Health, and other agencies, institutions, and organization in order to secure their full cooperation in the implementation of the South Carolina Regional Medical Program, (2) To review results and make recommendations on surveys which relate to the needs of the region and its component areas, (3) To work through committees to stimulate the initiation of projects or programs and integrate already existing committees of a categorical nature with the over-all program, (4) To advise and give guidance to the staff responsible for the administration of the SCRMP, (5) To review and, as appropriate, approve applications for operational grants, and (6) To periodically review the results of operational projects and to present an annual statement of the Regional Advisory Group's independent evaluation of the effectiveness of regional cooperative arrangements (regionalization) established under the auspices of the SCRMP.

IV. Membership of the Regional Advisory Group

A. The membership of the RAG shall include the following:

Two representatives from each of the ten (10) Medical Districts of the South Carolina Regional Medical Program (These two physicians will be elected by Council of the SCMA upon the recommendation of the local Councillor) 20

The Director of the South Carolina Heart Association, plus two members of the board 3

The Executive Director of the South Carolina Nurses Association, plus one member of the board 2

The Director of the South Carolina Hospital Association, plus four members of the Hospital Association appointed by the board 5

The Director of the South Carolina State Board of Health, plus one member of the board and the Director, Division of Chronic Diseases 3

The President of the Medical University of South Carolina, plus one member of the board 2
The Executive Officer and Director, State Agency for Vocational Rehabilitation, plus one member of the board 2
The President of the South Carolina Medical Association 1
The President-Elect of the South Carolina Medical Association 1
The President of the South Carolina Dental Association 1
The Director of the South Carolina Department of Public Welfare 1
The President of Clemson University, or his designee 1
The President of the University of South Carolina, or his designee 1
The President of South Carolina State College, or his designee 1
A Member from the South Carolina Committee for Technical Education 1
The Chairman of the Council of the South Carolina Medical Association 1
President of the S. C. Hospital Association 1
President-Elect of the S. C. Hospital Assoc. 1

B. A total of sixty-two (62) members will be on the Regional Advisory Group. The members at large will be nominated by the By-Laws and Nominations Committee. The Secretary shall be an ex-officio member.

C. Initially, individually elected members will serve for three (3) years in staggered terms of one, two, or three years. Thereafter, members will be elected for a three-year term with no member serving more than two consecutive terms.

D. The members of the RAG designated by position with an institution or agency will continue to serve year after year.

V. Officers

The Officers of the RAG will consist of a Chairman who must be a physician, and a Vice-Chairman. They will be elected annually and may not serve more than two consecutive terms in their respective offices. In the event the Chairman is unable to complete his term of office, a special meeting will be called to elect a new Chairman. A Secretary, who will be the Program Coordinator of the South Carolina Regional Medical Program, shall be appointed by the President of the Medical University of South Carolina on the recommendation of the Executive Committee of the RAG.

VI. Meetings

The RAG will meet quarterly, with written notices to be provided to all members at least twenty (20) days prior to the meeting. Business of the RAG may be transacted with a quorum of nineteen (19) members present at any meeting. The Chairman may call special meetings upon the written request of five (5) or more members of the RAG. The last quarterly meeting of the calendar year shall be designated as the annual meeting.

VII. Standing Committees

All committee chairmen shall be appointed from the members of the RAG with the exception of the Local District Committees.

1. Executive Committee

   Duties: This committee will advise the SCRMP staff in the interim between meetings of the RAG and their actions will be regularly reported to the RAG. This committee does not have the authority to alter or make policy or approve operational projects.

   Membership: The Chairman and Vice-Chairman of the RAG will serve as the Chairman and Vice-Chairman, respectively, of this committee. Other members of the Executive Committee shall be the Chairman of the Heart and Stroke, Cancer, Related Diseases, Education, By-Laws and Nominations, and Local Districts Committees. The President of the Medical University, the State Health Officer, and the Secretary of RAG shall be ex-officio members without vote, if not already elected in their own right to this committee.

2. Heart and Stroke Committee

   Duties: This committee will serve in an advisory capacity to the SCRMP staff as well as to the RAG, and will also serve as a review committee of operational projects which fall within their field.

   Membership: This Committee shall be composed of not less than seven (7) members. The Chairman of this committee will be appointed by the Chairman of the RAG, one other member will be appointed from the membership of the RAG by the Chairman of the RAG in consultation with the Chairman of this committee, and other members will be the membership of the South Carolina Heart Association's Program Committee. The Chairman shall be a physician. Term of Office: The committee will be appointed immediately after the annual meeting of RAG and will serve for a period of one year. Any member may succeed himself.

   Meetings: The committee shall meet at least twice each year.

3. Cancer Committee

   Duties: This committee will serve in an advisory capacity to the SCRMP staff as well as to the RAG and as a review committee for operational projects which fall within their field.

   Membership: This committee shall be composed of not less than seven (7) members. The Chairman of this committee will be appointed by the Chairman of the RAG and other members will be appointed by the

Chairman of the RAG in consultation with the Chairman of the Committee. The Chairman shall be a physician. Term of Office: This committee will be appointed immediataly after the annual meeting and will serve for a period of one year. Any member may succeed himself. Meetings: The committee shall meet at least twice each year.

4. Related Disease Committee
   Duties: This committee will serve in an advisory capacity to the SCRMP staff as well as to the RAG, and as a review committee for operational
   Membership: This committee shall be composed of not less than seven (7) members. The Chairman of this committee will be appointed by the Chairman of the RAG and other members will be appointed by the Chairman of the RAG in consultation with the Chairman of the committee. The Chairman shall be a physician.
   Term of Office: The committee will be appointed immediately after the annual meeting and will serve for a period of one year. Any member may succeed himself.
   Meetings: The committee shall meet at least twice each year.
5. Education Committee
   Duties: This committee will serve in an advisory capacity to the SCRMP staff as well as to the RAG and as a review committee for operational projects which fall within their field.
   Membership: This committee shall be composed of not less than seven (7) members. The Chairman of the committee will be appointed by the Chairman of the RAG and members will include Directors of Medical Education at community hospitals, the members of the Continuing Education Committee of the South Carolina Medical Association, the Chairman of the Continuing Medical Education Task Force of the South Carolina Heart Association, the Chairman of the Continuing Nursing Education Task Force of the South Carolina Heart Association, and other members as selected by the Chairman of the RAG in consultation with the Chairman of the committee. The Chairman shall be a physician.
   Term of Office: The committee will be appointed immediately after the annual meeting and will serve for a period of one year. Any member may succeed himself.
   Meetings: The committee shall meet at least twice each year.
6. By-Laws and Nominations Committee
   Duties: At the annual meeting the committee will nominate the Chairman, Vice-Chairman, and members of the RAG who are to take office at the first meeting following the annual meeting and, at meetings other than the annual meeting, the committee will nominate individuals to fill any unexpired terms. There may also be nominations from the floor for any position to be filled. The committee will respond to requests during the year for the review of By-Laws.
   Membership: This committee shall be composed of five (5) members elected by the RAG from nominees from the floor. The committee membership shall elect a member to serve as Chairman of the committee.
   Term of Office: The committee will be elected by the RAG at the quarterly meeting immediately proceeding the annual meeting and will serve for a period of one year. Any member may succeed himself.
   Meetings. The committee shall meet once each year prior to the annual meeting and on other occasions upon the call of the Chairman of the committee.
7. Local District Committees
   Duties: The Committees will be to evaluate local needs and to stimulate local projects and programs commensurate with the overall purpose of the South Carolina Regional Medical Program.
   Membership: A committee shall be formed to represent each of the ten SCRMP Medical Districts and each committee shall be composed of not less than seven (7) members, of which two shall be the RAG members appointed by the Council of the South Carolina Medical Association. The two RAG members shall appoint other committee members of the District. Individuals other than physicians should be represented on the committee.

VIII. Amendment of By-Laws

These By-Laws may be amended at any annual meeting by a majority vote of those present and duly constituted to execute the business of the RAG. Written notice of not less than twenty (20) days will be provided on the proposed amendments.

REGIONAL ADVISORY GROUP

South Carolina Regional Medical Program

Dr. Edward F. Parker
Dr. C. Ford Rivers, Jr.
Dr. Louis D. Wright, Jr.
Dr. C. Tucker Weston
Dr. William A. Klauber
Dr. William L. Mills
Dr. Roland M. Knight
Dr. George W. Smith
Dr. William H. Hunter
Dr. William R. P. Wilson
Dr. Rion M. Rutledge
Dr. Geoge C. Adickes
Dr. W. Samuel A. Harris
Dr. Charles R. May
Dr. Davis D. Moise
Dr. Robert Lumpkin
Dr. V. Wells Brabham, Jr.
Dr. G. Pr eston Cone
Dr. J. P. Coan
Dr. David C. Hull
Mr. Marvin H. Miller
Mr. Henry M. Lee
Dr. N. B. Baroody
Mr. Don Henry
Dr. John C. Hawk, Jr.
Mr. William L. Yates
Mr. William B. Finlayson, V-Chr.
Mr. Robert Toomey
Mr. H. Filmore Mabry
Mr. A. R. Nicholson, Jr.
Mr. Charles G. Cooper
Mr. D. Kirk Oglesby*
Dr. E. Kenneth Aycock

Dr. John B. Martin, Jr.
Dr. William C. Marett
Dr. William McCord, Chr.
Dr. Charles B. Hanna
Dr. Dill D. Beckman
Mr. John A. Montgomery
Dr. Eugene C. Proctor
Mr. Arthur B. Rivers
Dr. Robert Edwards
Dr. H. Willard Davis
Dr. M. Maceo Nance, Jr.
Mr. Clarence Rowland
Dr. Harold P. Hope
Dr. William Perry
Dr. Ben N. Miller*
Miss Dora D. McNeill
Mrs. Ellie Garvin
MEMBERS AT LARGE:
Mr. J. Kelly Sisk
Professor Samuel Hulbert
Dr. Charles M. Waters, Jr.
Mr. John G. Martin
Mrs. George H. Wheeler
Dr. Joel W. Wyman
Dr. Emanuel L. McPherson
Dr. Charles T. Battle
Dr. R. N. Beck
Dr. W. F. Bultman
Mr. Franklin R. DeWitt
Mrs. Esther (Mrs. Carl) Fields
Mr. Willie T. Smith, Jr.
Dr. Eugene C. Proctor
Dr. W. F. Gibson

*Ex-officio (no vote)

**Total voting membership is 63.

Ex-Officio (Send meeting announcements) Mr. Luther Haynie, 146 South Battery, Charleston 29401

Under the leadership of Dr. Charles P. Summerall III, and for a period of time also that of Dr. J. Carroll Chambers, the S. C. Regional Medical Program staff assisted in securing funds for 17 operation projects in 1968. (See Listing Below).

Currently 15 of these grants are now in their second year of operation.

SOUTH CAROLINA REGIONAL MEDICAL PROGRAM FUNDED OPERATIONAL PROJECTS AND EXPENDITURES

15 Second Year Operation Projects
Sept. 1, 1969 to Aug. 31, 1970

HEART DISEASE

Spartanburg General Hospital Coronary Care Unit-Sponsored by the Hospital and directed by Dr. R. O. Burgess, this project received an award to improve patient care in an existing coronary care unit through providing continuing education programs for the medical and nursing staff of the Spartanburg General Hospital and community hospitals in the area. Grant-$16,580 (1968-1969) and $16,073 (1969-1970).

Greenville Coronary Care Unit Project. Sponsored by the Greenville Hospital System and directed by John Muller, this project received an award to support the necessary staff training in the Greenville Hospital System for its newly-opened coronary care unit. Grant-$18,717 (1968-69) and $9,853 (1969-70)

Anderson Memorial Coronary Care Unit-Sponsored by the Anderson Memorial Hospital and directed by Dr. W. F. Lummus, this project was awarded funds to aid in improving patient care in a new acute coronary care unit and to support continuing education programs for the medical and nursing staff of the hospital and community hospitals in the area. Grant-$28,616

Spartanburg General Hospital Heart Clinic. Sponsored by the Spartanburg General Hospital and directed by Dr. J. P. Coan, this project was awarded funds to expand the heart clinic facilities and offer new services to patients with heart disease in Spartanburg, Cherokee and Union Counties; also to aid in dissemination of information to physicians of these three counties. Grant-$22,081 (1968-69) and $24,220 (1969-70)

Florence Cooperative Heart Clinic Program—Sponsored by the South Carolina State Board of Health and directed by Dr. N. B. Baroody, this project received funds to expand the role of the community hospital heart clinic and strengthen its relation to the Medical University of South Carolina through inter-clinic conferences, referral and consultation arrangements, physician courses, and expanded patient services. Grant-$23,746 (1968-69) and $28,958 (1969-70)

York General Hospital Coronary Care Unit—Sponsored by the York General Hospital and directed by Dr . G. C. Adickes, this project received an award to assist in establishing a five-bed coronary care unit at York General Hospital for improved patient care and nurses in York County and the surrounding area. Grant-$20,887 (1968-1969) and $37,822 (1969-1970).

Coronary Care Unit Training—Sponsored by the University of South Carolina School of Nursing and directed by Madelon Henderson, this project received an award to develop a series of training courses originally organized by the South Carolina Heart Association and the School of Nursing designed to prepare nurses for duty in coronary care units so that the rapidly expanding number of such units will be adequately staffed. Grant—$18,127 (1968-69) and $53.229 (1969-70)

Cardiopulmonary Resuscitation Training Project—Sponsored by the South Carolina Heart Association and directed by A. F. DuHays, this project was awarded funds to support a state-wide program of the Heart Association to instruct physicians and allied health personnel in cardiopulmonary resuscitation procedures through hospital based training programs in each county in South Carolina. Grant-$44,520 (1968-69) and $44,321 (1969-70)

CANCER

Greenville Cobalt Therapy Program—Sponsored by the Greenville Hospital System and directed by Dr. J. B. Pressly, this project received an award to provide a cobalt high energy source to improve cancer therapy for the population in the northwest area of South Carolina and increase the educational potential for radiology residency and radiologic technician programs in the 849 bed Greenville Hospital System. Grant-$67,404

Cervical Cancer Screening Project—Sponsored by the South Carolina State Board of Health and directed by Dr. Hazel B. King, this project was awarded funds to unify the efforts of health, welfare, medical and other community agencies seeking to reduce cervical cancer in underprivileged women of Darlington, Marlboro and Florence Counties by stimulating wider use of the "Pap" smear tests especially through an extensive public information program. Grant-$72,108 (1968-69) and $105,141 (1969-70)

Gastrointestinal Cancer Detection Clinic—Sponsored by the Columbia Hospital and directed by Dr. A. H. Madden, this project was awarded funds to demonstrate to the physicians the value of coordinated diagnostic procedures; also, to serve as a pilot project for technician training, to establish an orientation center for other cancer detection projects, and to offer a

community education program through cooperative arrangements with local health societies and agencies. Grant-$35,033 (1968-69) and $40,092 (1969-70)

Cooperative Program on Carcinoma of the Cervix—Sponsored by the Medical University of South Carolina and directed by Dr. Paul Underwood and Dr. Keene Wallace this project received an award to develop a cooperative regional program for expanding and improving screening, diagnosis, therapy, and management of patients within the state of South Carolina suffering from carcinoma of the cervix. Grant-$74,845 (1968-69) and $111,941 (1969-70)

Pediatric Cancer Education and Service Project—Sponsored by the Medical University of South Carolina and directed by Dr. Samuel K. Morgan, this project received an award to improve pediatric cancer care on a state-wide basis by establishing a post-graduate physician education course in pediatric cancer diagnosis and therapy; and form a state-wide "tumor board" to encourage cooperation and a two-way learning process among physicians, clinics, and the Medical University; and to disseminate consultant advice directed toward more uniform care of pediatric patients. Grant-$76,627 (1968-69) and $126,843 (1969-70)

STROKE

Acute Stroke Demonstration Project—Sponsored by the Columbia Hospital and directed by Dr. R. R. Taylor, this project received funds to establish in the central portion of South Carolina a hospital-based acute stroke service for the purpose of offering a comprehensive medical program for acute stroke patients, keeping physicians abreast of current diagnostic and management techniques, training interns and residents, establishing teaching programs for related paramedical personnel, soliciting involvement and support of the public, and ultimately, demonstrating to the other portions of the state the value and feasibility of a coordinated team approach to stroke management. Grant-$89,227 (1968-69) and $88,537 (1969-70)

Columbia Stroke Management Project—Sponsored by the Columbia Hospital and directed by Dr. Dana Mitchell, this project was awarded funds to gradually convert an existing health facility to the extended care and rehabilitation of stroke patients in the central portion of South Carolina, with the objective of demonstrating the feasibility and advantages of such an undertaking to other areas of the state. Grant-$32,719 (1968-69) and $51,827 (1969-70)

RELATED DISEASE

Chronic Hemodialysis Demonstration Unit—Sponsored by the Medical University of South Carolina and directed by Dr. Arthur V. Williams, this project received funds to initiate an effort to start working towards the acquisition of a hemodialysis center for the state of South Carolina. Grant- $19,050 (1968-69) and $28,226 (1969-70)



The Health Education and Recruitment Projects, funded by the S. C. Regional Medical Program, is displaying billboards on highways throughout the state to interest students in the various health careers.

CONTINUING EDUCATION

Health Education and Recruitment Project—Sponsored by the South Carolina Hospital Association and directed by Herbert Weisberg,this project was awarded funds to initiate a program designed to expand and refine the information on the availability and need for education programs which will support the hospital work force; also, to assist hospital and health industry in educational and recruitment programs. Grant-$57,675 (1968-69) and $57,717 (1969-70)

Two of the original 17 grants became independently self-supporting in August 1969. It is expected that this will be the future course of all of these projects. The two projects which are now self-supporting are (1) Cancer-Greenville Cobalt Therapy Program, (2) Heart-Anderson Coronary Care Unit.

The other 15 projects were awarded 2nd year operational funds for the period September 1, 1969-August 31, 1970 at approximately the same level of funding as was received in the first year, with the exception of coronary care unit training, for which a supplemental appropriation from carry over funds was approved, enabling this project to receive $53,229 for 2nd year operation.

Three new operational projects were funded January 1, 1970-December 31, 1970 out of carry over funds.

Three approved but unfunded projects we hope may be given awards as were allocated in August 1969 by the Division of Regional Medical Programs.

SOUTH CAROLINA REGIONAL MEDICAL PROGRAM NEW OPERATIONAL PROJECTS

January 1, 1970-December 31, 1970
Funded with Carryover Funds

CANCER

Central Tumor Registry Project—Sponsored by the Medical University of South Carolina and directed by Dr. Max Rittenbury, this project requests funds for the establishment of a Tumor Registry in the state to offer students as well as physicians with an objective of improving both medical education and patient care. Grant-$34,755

Statewide Radiation Therapy and Nuclear Medicine Program—Sponsored by the Medical University and directed by Dr. Keene Wallace, this project enables establishment of a cooperative Radiation Therapy and Nuclear Medicine program among community hospitals and the Division of Radiation Therapy at the Medical University with objectives of expanding education in this area and developing more effective working relationships among physicians and paramedical personnel involved in the treatment of neoplastic diseases. Grant-$120,950

CONTINUING EDUCATION (Spartanburg)

Demonstration Project in Continuing Education at a Community Hospital—Sponsored by the Spartanburg General Hospital and directed by Dr. Loren Parmley, this project demonstrates the value of a broad progressive, community hospital-based continuing education program to medical service areas of the state as developed in cooperation with the Medical University of South Carolina. Grant-$20,832

NEW PROJECTS APPROVED WITH FUND ALLOCATION CONDITIONALLY GIVEN BUT NOT YET AWARDED

HEART (Charleston)

Regional Education and Service Project for Comprehensive Care of Infants and Children with Heart Disease—Sponsored by the Medical University and to be directed by Dr. Arno Hohn, this project proposes a three-prong approach to achieve a comprehensive cooperative program for South Carolina in pediatric cardiology which involves paramedical training, strengthening of the Division of Pediatric Cardiology at the Medical University, and increasing communication between hospitals and heart clinics throughout the state.

Demonstration Service and Education Project—Sponsored by the Medical University Heart Clinic and to be directed by Dr. Charles Summerall, this project has the general goal of expanding the role of the Heart Clinic at the Medical University in regionally oriented educational, diagnostic, and treatment programs, to be developed in cooperation with the heart clinics in community hospitals.

Core Project for Regional Coordination of Coronary Care Units—Sponsored by the Medical University in cooperation with the South Carolina Heart Association, this project will encourage and support the purposeful application of continuous heart monitoring and related techniques of coronary care within the region on a cooperative basis.



SCRMP has a new exhibit which is available for conferences, conventions and seminars. The exhibit provides information on program activities through a push-button telephone system. In addition, a slide series is being developed to provide additional data on operational projects.

PLANNING STUDIES

In addition to the project award grants as indicated during the first and second year of operation of these projects, under the provisions for Planning and Feasibility Study, funds allocated for the support of the State Regional Office staff have been authorized to develop these additional projects:

(Total 1968-69)

1. MO23 Emergency Services Survey
   A survey to assess the capabilities of existing hospital and ambulance facilities within the State in the care and transportation of accident victims.
   To study, initiate and evaluate methods and techniques for integrating existing ground medical transportation facilities with a helicopter ambulance system, establishing their effective operative radius and economic desirability.
   To demonstrate program effectiveness by

evaluating current and past statistics and methods, and comparing this data with statistics produced by the improved systems. $11,444.02 (Total 1968-69)

2. MO32-3 Central Tumor Registry Planning Study
   The purpose of this proposal was to obtain data and experience needed to plan the inauguration and operation of a Central Tumor Registry to serve the State.
   Overall goals were:
   1. The tabulation and evaluation of data.
   2. The improvement of medical education and patient care by making data available to undergraduate and graduate students as well as practicing physicians.
   3. To enable local physicians to rapidly obtain data concerning both the latest results of and the area within the State where treatment can best be given for their patients.
   4. Increasing public interest in cancer and public awareness of the needs for early detection and control. $54,419.37 (Total 1968-69)
3. MO42-3 Greenville General Hospital Planning Study of the Role of the Greenville General Hospital in the SCRMP
   This study supplements current planning activities of the Greenville General Hospital system. It will emphasize cooperative arrangements among agencies and institutions within the Greenville area as the basis for a comprehensive patient services and for education programs, which may serve as a model for comparable programs elsewhere in the region. $22,604.37 (Total 1968-69)
4. MO52-3 Columbia Hospital Planning Study on the Role of the Columbia Hospital in the South Carolina Regional Medical Program
   This is a study to provide a basic evaluation of the role of a major regional hospital in the educational and service aspects of its activities in the areas of heart disease, cancer, stroke and related diseases, emphasizing the opportunities to expand these activities through cooperative arrangements. $48,222.78 (Total 1968-69)

ACTIVITIES SPONSORED OR JOINTLY SPONSORED BY THE SOUTH CAROLINA REGIONAL MEDICAL PROGRAM

Stroke, Early Diagnosis and Aggressive Early Management and Exercise and Heart Disease, a one-day medical symposium sponsored in conjunction with the South Carolina Heart Association in November, 1968.

Cardiology Seminar, sponsored jointly with the South Carolina Heart Association and the South Carolina State Board of Health in December, 1968.

Data Summary-Hampton County Hospital Survey, sponsored with the Hampton County Health Advisory Council in January, 1969.

Congenital Heart Disease in Adults and Management of Arrhythmias, co-sponsored with the Spartanburg General Hospital in January, 1969.

Workshop on Pancreatic Scanning, sponsored with E. R. Squibb & Sons and Columbia Hospital of Richland County in February, 1969.

Exercise, in the Evaluation, the Prevention, the Treatment of Heart Disease, sponsored jointly with the South Carolina Heart Association,the American Heart Association, and the President's Council on Physical Fitness and Sports in May, 1969.

CPR Workshop, sponsored with the South Carolina Heart Association in May, 1969.

Conference for State and Areawide Health Planners, jointly sponsored with State Board of Health and Comprehensive Health Planning in May, 1969.

Planning Meeting for Continuing Education, sponsored with the Division of Continuing Education of the Medical University of South Carolina in June, 1969.

Afternoon Symposium on Coronary Heart Disease, sponsored with Spartanburg County Heart Clinic in July, 1969.

Electrocardiography Course, containing 12 one-hour lectures throughout the summer of 1969. Jointly sponsored with the Department of Medical Education of Spartanburg General Hospital and the Spartanburg County Medical Society.

Coronary Care Planning Conference, August, 1969.

Conference on Electronic Communications, sponsored with Southern Bell Telephone and Telegraph Company and the Division of Continuing Education of the Medical University in September, 1969.

The Community Hospital in Medical Education, sponsored with Columbia Hospital of Richland County in October, 1969.

Nursing in the Coronary Care Unit, an intensive two-week CCU training course held in October, 1969 and sponsored with the University of South Carolina.

Medical Lectures, sponsored with the Department of Medical Education of Spartanburg General Hospital and the Spartanburg County Medical Society in November and December, 1969.

A Day With The Professor, sponsored with the Columbia Hospital of Richland County in December, 1969.

Emergency Health Study, conducted in 1969 with the South Carolina Committee on Trauma.

Health Study on Community Hospital and Its Relation with the South Carolina Regional Medical Program, sponsored with the Greenville General Hospital.

District Development Meeting, January, 1970.

Stroke Symposium, held February 9, 1970, and

sponsored with the Stroke Project of the South Carolina Regional Medical Program.

Family Practice Refresher Course, sponsored with the Division of Continuing Education of the Medical University of South Carolina in February, 1970.

Stroke Symposium, held February 14, 1970 and sponsored with the South Carolina Heart Association.

Nursing in the Coronary Care Unit, a three-week course of CCU training, sponsored with the University of South Carolina in February, 1970.

Funds awarded for consultation services have been utilized to promote a number of sponsored lectures, seminars, and workshops during the past eighteen months. Some of the more significant of these are listed.

In addition, speakers have been provided for a number of hospital staff meetings and medical society meetings throughout the period of the program's activities.

Total approximate expenditure for these programs is $22,000.

CHRONIC HEMODIALYSIS UNIT

ARTHUR V. WILLIAMS, M.D.*
MICHAEL F. SMITH**
Medical University Hospital

Chronic hemodialysis had proven to be a practical method of patient management by 1968. Units had been funded by the National Institutes of Health throughout the country, and all had been successful in proving the feasibility of this method of patient care. Moreover, advances in transplant were promising. Since South Carolina had no dialysis or transplant facility, it seemed appropriate to begin a dialysis and, at a later date, a transplant program for ths State.

Although facilities for acute dialysis had been available in the Medical University Hospital since 1955, they were infrequently used because of demands on physician time. One patient had been held for transplant. Chronic dialysis had not been attempted.

In the spring of 1968, the first trials were made to maintain two patients on chronic dialysis. A technician was available and was utilized, when not in laboratory, to dialyze the first two patients to become available. The first, a 36 year old patient, was found after dialysis was started to have amyloid disease of multiple organs. Because of symptoms associated with liver failure, he requested to be removed from the program. The second died of acute pancreatitis.

A dialysis room was furnished by the University Hospital, and two Travenol RSP units and metabolic beds were acquired. Charleston County furnished supplies for one patient for one year. A laboratory became available to study dialysis patients. This laboratory has also been used in the study of chronic renal disease and transplant immunology. A half-time nurse has subsequently become available through the Medical University Hospital.

The presence of a nurse trained in dialysis techniques made acute dialysis more available. Since the onset of the chronic program, 164 acute dialyses have been done in 30 patients. The mortality in this group has been 50 per cent. One death occured as the result of ventricular fibrillation during the third dialysis of a patient with severe uremic pericarditis. Other deaths were due to associate illness.

The dialysis room and laboratory have become the centers of teaching renal disease. Medical students, interns and residents make daily rounds on dialysis patients. Student nurses have been instructed in dialytic techniques. Renal physiology has become more

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Table I

Age	Diagnosis	In-Hospital Dialysis	Disposition	Present Activity
13	Pyelonephritis	15 Oct. '68—16 May '69	Home 16 May '69 to Present	Full
24	Glomerulonephritis	18 Sept. '68—3 Dec. '68	Transplant	Full
26	Glomerulonephritis	2 Jan. '69—16 July '69	Home 16 July '69 to Present	Full
45	Nephrosclerosis	17 July '69-to Present	In and Out Patient	Full
33	Pyelonephritis	14 April '69—5 Nov. '69	Home 5 Nov. '69 to Present	Full
44	Glomerulonephritis	23 Dec. '69 to Present	In and Out Patient	Full
45	Pyelonephritis	5 Sept. '69—3 March '70	Home 3 March '70 to Present	Full
19	Post-partum Vascular Disease	9 Oct. '69 to Present	In and Out Patient	Bed-Chair
20	Pyelonephritis	5 March '70 to Present	In and Out Patient	Full

understandable when problems are first solved involving the artificial kidney and then transposed to human physiology.

A summary of patients chronically dialyzed is seen in Table 1. The patients on home dialysis are capable of full activity. One, a teacher, has not been re-employed in spite of full physical and mental capabilities. The first patient chosen, now 14, is an honor student in junior high school. (Figure 1) The other patients on home dialysis are housewives. One an in-and-out patient, is a 45 year old man who works part time as a machine operator on the days he is dialyzed and full time other days. Another is a high school student who will graduate this year.

The duration of in-hospital training prior to transfer home is related to the difficulty in acquisition of home dialysis units rather than inability to train in a shorter period of time.

Since inception, the goal of the program has changed from maintenance on an in-and-out patient basis to dialysis at home. This allows the patient to lead a full life and is approximately one-fifth the cost of continuing in-hospital treatment.

One of the major problems in chronic hemodialysis is an access route to the circulation. Except in one patient, we have used the Scribner shunt.

In one recent patient, a sub-cutaneous fistula between the radial artery and an adjacent vein has been used. Such fistulae (cimino shunt) decrease the clotting hazard



Figure I

Debbie Johnson, born with a kidney disorder which made her a complete invalid, is shown here with her home dialysis unit. Now 14 years old, she leads a normal, active life.

but impose the need of using thin-walled 14 and 15 gauge needles for each dialysis. As can be seen in Table II, there is a large variance in survival time of shunts and also a wide variance between the number of revisions required per patient. A revision is the replacement of either the arterial or the venous line.

Shunt failure is most often due to clotting in the cannula, most frequently near the tip or in the vessel adjacent to the tip. Revision has also been done because of infection and skin erosion over the cannula.

Multiple revisions have been necessary in

Table II

Patients	Original Shunts	Revisions	Shunts Replaced	Average Uncomplicated Shunt Survival
1	14 Oct. 1968	0	1	17 months
2	31 Dec. 1968	2	1	3.75 months
3	16 June 1969	0	0	9 months
4	13 April 1969	0	6	2 months
5	22 Dec. 1969	0	0	3 months
6	8 Oct. 1969	0	4	1.2 months
7	June 1969	1	1	3 months
8	15 Feb. 1969	0	1	1 month

the presence of advanced local vascular changes or inadequate shunt care.

The ususal complications of a large chronic dialysis program are metabolic bone disease and peripheral neuropathy and sepsis, the latter not being prominent in programs in this country.

Renal osteodystrophy has probably not yet been diagnosed because of the relatively short duration of the program. This development leads to disability and it is hoped that present patients will be transplanted prior to this becoming a major problem.

Nerve conduction times are performed serially on all patients. As yet, there has been no decrease in conduction time in any patient. This, too, may be temporally related.

Local infection has been present in two shunts. No systemic infection has occured.

In the earlier days of chronic dialysis, the incidence of hepatitis in patients and personnel was high. With decreased use of blood transfusions, this incidence has fallen throughout the country, and we have thus far had none. Decreased transfusion use has followed recognition of the fact that the patient with a hematocrit reading that is quite low is able to function well. The average reading of patients in our unit is 17. In spite of total or partial absence of renal mass and erythropoietin (the renal marrow stimulating hormone, the dialysis patient will produce reticulocytes but at a lower hemoblogin level than ususal.

Patient emotional problems on the program have been significant in two patients. In one, the patient was accepted on the program in spite of advice of psychiatry consultants to the contrary. A second is being chronically dialyzed who originally was thought to have acute disease. Once dialysis was started, ethical questions have allowed continuation of hemodialysis in a patient who is not well enough motivated to follow the rigid program of fluid and salt restriction necessary for preservation of life of satisfactory quality. All other patients have been screened by the Department of Psychiatry of the Medical University and found to be able to live happily with the restrictions imposed. Psychiatric clearance is now routine before acceptance.

At the present time the major problem is financial. There are no longer funds available from a national source for such programs despite the fact that the annual cost of support per patient has dropped remarkably within the last 18 months.

At the beginning of the program it was hoped that support might be obtained from within the patient's county. With the exception of Charleston County, such help has not been forthcoming. At the present time, patients from this and other units are on a home dialysis program from this and other units in Anderson, Spartanburg and York Counties, as well as Charleston.It is hoped that with physician realization that patients once thought terminal can be returned to useful life, interest will be aroused and assistance offered. In the interim, patient support is obtained from insurance benefits, social security, personal income and the State of South Carolina through the Medical University.

In summary, eight patients are now being chronically dialyzed by the unit of the Medical University Hospital. Four are at home with their own units. Four are in-and-out patients of the University Hospital. Seven of the eight patients are completely or partially rehabilitated. One remains disabled because of emotional problems interfering with adequate management.

The feasibility of chronic dialysis in South Carolina has been demonstrated.

It is hoped that additional financial support will allow future expansion of the unit to care for the 70 patients a year in South Carolina who require this service.

ANNUAL SCRMP CANCER REPORT

Reviewing happenings in the SCRMP Cancer Program over the past year indicates significant progress in many areas. The Statewide Cervical Cancer project at the Medical University of South Carolina in addition to further upgrading of equipment and acquisition of more radium has undertaken a hospital base screening program. The overall patient load and consultative services continue to increase. The Florence cervical cancer screening program has shown an increase in the number of services performed with increase in yield of cervical cancers.

The Greenville Co^{60} unit has been in operation for about one year and is currently treating over 40 patients per day. This patient load approaches the saturation point for a single therapy unit.

In the area of pediatric cancer the Medical University of South Carolina based Statewide Pediatric Cancer Conference has shown continued improvement in quality of conferences. A greater effort is now underway in searching for additional users for the telephone network. (Figure I)

Gastric Cancer Program-The Gastric Cancer Program is meeting its objectives as both a screening and teaching program. The clinic has reached a high point in number of patients screened and teaching programs have been initiated for the training of paramedical personnel in basic screening procedures. Information concerning these screening procedures is also being disseminated by lectures through various Medical Associations both in and out of the State.

Substantial progress has occurred in the State-wide Tumor Registry project. Monies have been made available for processing information to be utilized in the computer center at the Medical University of South Carolina.



The Pediatric Cancer Education and Service Project, funded by the S. C. Regional Medical Program, holds a telephone conference each month. The Medical University panel is shown above during one of these conferences. From left to right are: Mr. Dave Smalley, Medical Producer-Director, S. C. ETV Network; Dr. Keene M. Wallace, Professor of Radiology; Dr. James G. Ward, Resident in Pathology; Dr. H. B. Othersen, Jr., Associate Professor of Surgery and Pediatrics; and Dr. Samuel K. Morgan, Project Director and Associate Professor of Pediatrics.

The Statewide Radiation Therapy Program which was funded early this year is presently using the computer link with the Common Computer Center in Houston, Texas, for radium and external beam therapy. A pilot study with Greenville using these facilities is in progress. It is hoped that alterations and renovations in the Radiation Therapy Division at the Medical University of South Carolina will be accomplished in the near future.

A dental education and demonstration project has been favorably reviewed by the Cancer Committee and RAG and has been forwarded to DRMP for evaluation.

There seems to be a scarcity of cancer projects in the state at the present time.

Summary

The SCRMP Cancer Program is progressing adequately in all areas. Individual programs are functioning and meeting their objectives through the planned methodology as evidenced by project evaluation. There is a necessity for increased correlation. Increased cooperation in the professional community dealing with neoplastic diseases has occurred as a result of the Cancer Program. However, correlation between the individual programs has not been adequate. Progress over the past year in the SCRMP Cancer Program is significant and should increase with the development and expansion of existing and new projects.

ACUTE STROKE DEMONSTRATION PROJECT IN A COMMUNITY HOSPITAL*

ROBERT R. TAYLOR, JR., M.D.**

Until August, 1968, there was no organized program in Central South Carolina for the intensive treatment of the stroke patient. This is when the Acute Stroke Demonstration Project at the Columbia Hospital began functioning. This project is sponsored by the South Carolina Regional Medical Program.

Project Objectives: The general objective of this project is to demonstrate to this community and to other natural health service communities within the South Carolina region, the value of a coordinated team approach to stroke management, and thus to encourage additional stroke programs within this region. Specific objectives are: (1) The establishment of a hospital-based stroke service in central South Carolina to which physicians can refer patients with acute strokes for definitive investigative studies, optimum nursing care and where possible, corrective surgery. (2) To provide current information for physicians throughout the community on the proper diagnosis and managment of the patients with cerebrovascular problems. (3) To provide training opportunities for interns and residents and for the establishment of teaching courses for nurses, technicians, and other paramedical personnel in nursing care and in the technical management of cerebrovascular disease. (4) To provide public information for citizen involvement and support of the program within the community served.

Although many diagnostic studies are now available which would enable the physician to evaluate the acute stroke patient and often to determine its specific etiology and management, it is only the rare patient that has the advantage of a comprehensive work-up. This is particularly true with reference to cases that might have a vascular lesion which would be amenable to surgery and patients having associated medical illnesses which contribute to the etiology of their vascular problem, i.e., hemorrhagic diseases, diabetes, hypertention, etc. It is also particularly true in the patient with "transient cerebral ischemia" in whom symptoms are of short duration and there is not residual deficit. This group of patients rarely has the careful diagnostic work that might disclose cor-

* This project is funded by the S. C. Regional Medical Program. Grant no. 51020-M152.

**Project Director, Acute Stroke Unit, Columbia Hospital of Richland County, Columbia, S. C.

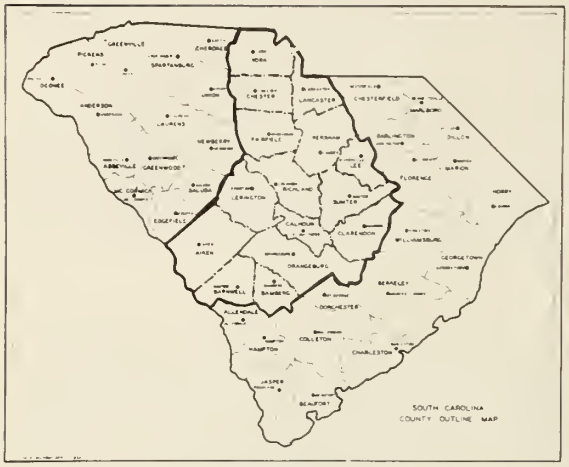


Figure I
Midlands Service Area

rectible vascular disease. There is generally a passive attitude toward the treatment of completed strokes. Patients are hospitalized most often with the idea that they are a "nursing problem". The community involved in this demonstration is one of the natural health service areas in South Carolina. IT basically encompasses an area within the radius of 50 miles around the center of Columbia, and includes 15 counties which make up the Midlands Service Area of the South Carolina Regional Medical Program (Fig. 1).

A study of death certificates in the central region of South Carolina has shown a mortality rate upon white males, age 45-69, of approximately 240 per 100,000 as a result of strokes. In non-white males the mortality rate may reach 700 per 100,000. These data indicate the remarkable extent of this disorder in South Carolina.[1]

Method of Procedure: An area in the Columbia Hospital has been designated as the "Acute Stroke Unit". This unit has 16 beds which represents the maximum capacity of patients for the demonstration project. Staff patients (indigent) and private patients are admitted to this unit. All patients admitted to the Acute Stroke Unit receive a general medical work-up and also have a complete neurological and neurovascular examination. Various "neurodiagnostic procedures" are performed as felt indicated. In patients in which there is no specific surgical procedure to be done, medical treatment is outlined. Neurosurgical or vasuclar surgical consultation is obtained when felt indicated. Programs of rehabilitative physiotherapy are started as soon as possible. As soon as a comprehensive medical program has been outlined or completed and the patient's status is stabilized, the patient will be transferred out of the Acute Stroke Unit and into other areas of the hospital, rehabilitation unit, nursing home, or discharged home. Public Health Nurses associated with this demonstration project engage in a discharge planning operation which starts soon after the patient is admitted. The Home Health Service Division of each county health department is contacted for following up the patient in his home and providing a program of home care counseling.

Activity To Date: From November 30, 1968, through December 31, 1969, there were 163 patients admitted to the Acute Stroke Unit, 100 of these patients had completed strokes (figure II). 28 patients had transient cerebral ischemic attacks. 35 patients had the final diagnosis other than cerebrovascular disease (figure III). Also noted in Figure II are the stroke patients from January, 1967, through July, 1968. There was an exceptionally high instance of cerebral hemorrhage in this latter group of patients and in reviewing the charts on these patients it was determined that this diagnosis was not substantiated in the majority of these patients by spinal fluid examination. This emphasizes the importance of fully evaluating patients with cerebrovascular disease in an effort to arrive at a definitive diagnosis rather than lable them "C. V. A."

The death rate was 13% of patients on the Acute Stroke Unit in comparison to a death rate of 49% in the hospitalized stroke patients prior to the opening of the Stroke Unit. Some of the patients were discharged from the Acute Stroke Unit to Nursing

[1]Statistical Supplement, South Carolina State Board of Health, 1966

Figure II
Stroke Patients Admitted to Columbia Hospital

Stroke Patients From Jan. 1967 to July, 1968

Average no. of Days in Hospital		20.6
Hemorrhage	54	42%
Emboli	12	9%
Thrombosis	64	49%
TOTAL	130	
Other	9	
Deaths	68	49%
Arteriograms	5	3.6%

Stroke Unit Patients From Nov. 1968 to Dec. 1969

Average no. of Days on Stroke Unit		9.9
Average no. of Days in Hospital		16.6
Hemorrhage	18	18%
Emboli	12	12%
Thrombosis	70	70%
	100	
Other	63	
Deaths	21	13%
Arteriograms	44	24%

Homes and died there. However, a complete follow-up on these patients has not been completed. The high instance of deaths from January, 1967, through July, 1968, probably reflects that a lot of these patients remained in the hospital and succumbed to some intercurrent infection rather than going to a nursing home. Eight of the patients on the Acute Stroke Unit had vascular surgery with 7 of these patients having carotid endarterectomies and 1 had a subclavian endarterctomy for a subclavian steal syndrome. Four of the patients prior to the stroke program had vascular surgery in the form of carotid endarterectomies.

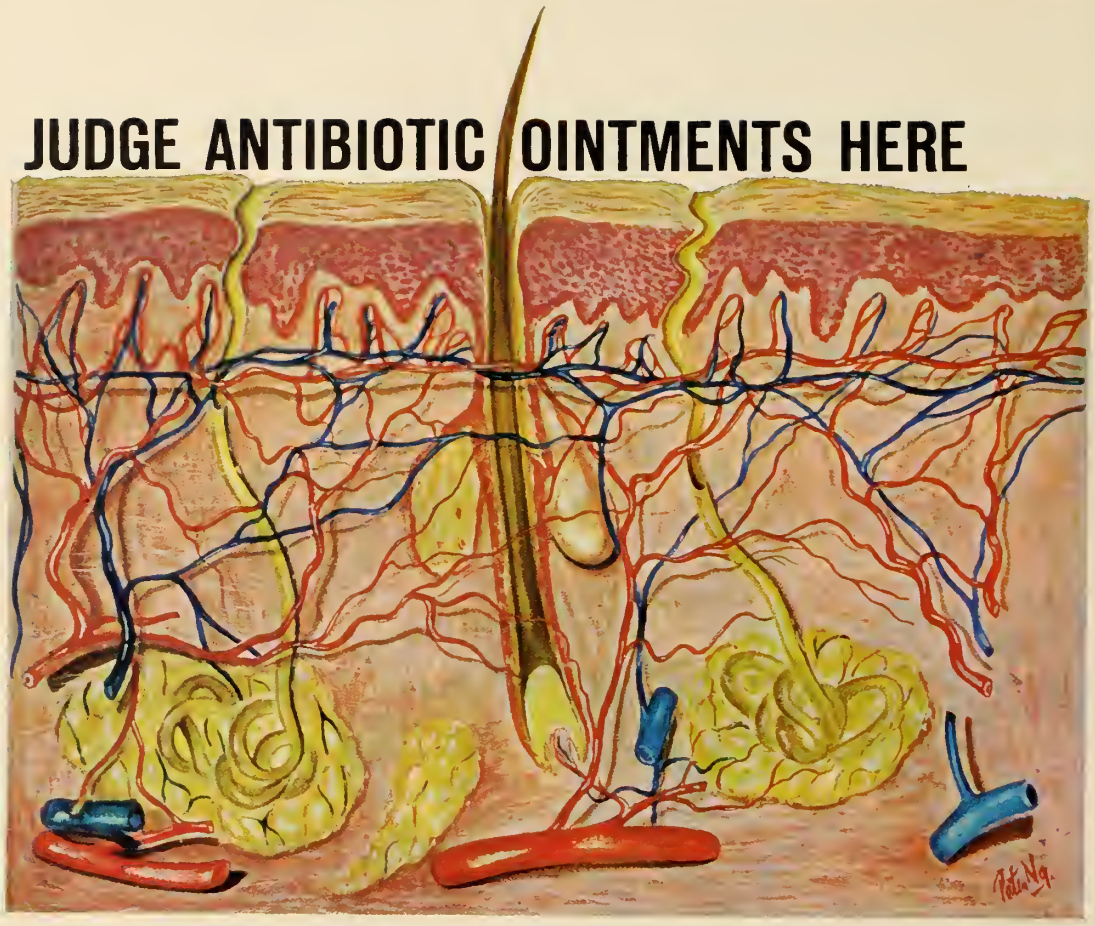
Figure III
Patients Admitted to Stroke Unit with Final Diagnosis Other Than Cerebrovascular Disease

Seizure Disorders	8
Cerebral Degenerative Disease	6
Subdural Hematomas	3
Spinal Cord Compression	3
Brain Tumor	3
Glaucoma	2
Berry Aneurysm, Subarachnoid Hemorrhage, Aortic Aneurysm, Cerebral Concussion, Drug Intoxication, Hysteria, Syncope, Hypoglycemia, Multiple Sclerosis, Uremia (1 of each)	10
TOTAL	35

I think it is most important to point out the disorders in Figure III. Many of these patients were successfully treated by means of medical or surgical intervention. These patients exemplify the varity of conditions that can produce the "Stroke Syndrome".

Summary: An Acute Stoke Demonstration Project in a community hospital has been operation for over a year. During this time the hospital stay of the stroke patient and the death rate have been decreased. I believe that there is an urgent need for similar units in community hospitals in South Carolina and throughout the country.

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Again—Self Help Devices for the Stroke Patient", American Heart Association; "Stroke, A Guide for the Family". American Heart Association; "Up and Around", USPHS; "Strike Back at Stroke", USPHS, etc., were supplied regularly to the patients and their families. Much help has also been given to the patients by the South Carolina Vocational Rehabilitation Department.

Problems:

Some immediate difficulties were encountered in this project as it began. Foremost was the lack of available physical therapists in this area, a problem which was found not to be unique for central South Carolina. This obstacle has never been completely overcome but was greatly helped by the part time employment of a registered physical therapist. To further overcome this problem, greater effort was given to providing additional training to the stroke nurse in rehabilitation techniques in a near-by center, Charlotte, N. C.

By the end of the first year of operation, the statistical report was discouraging and a new look at the project became necessary. Only 13 patients had been referred to the project ranging in age from 40 years to 88 years, coming from four counties. Only seven of these were discharged home. The average length of stay was 32.6 days. In re-evaluating the project, several outstanding features were apparent. The lack of a full time physical therapist was an apparent deterent to some physician referrals. The location of the physical plan several miles away from the Acute Stroke Unit and the necessity for sponsorship before admission could be accomplished to the ECF were also apparently restricting the referral system.

Solution:

In January 1970 the project was moved to the Columbia Hospital on the same ward as the Acute Stroke Unit. Inasmuch as the hospital is a county hospital and therefore does not have the restriction of admissions, the number of patients that could be included in the rehabilitation project was increased. In less than 3 months after the move, 12 patients were admitted to the project. By being in the hospital setting, full utilization of a physical therapist was also possible.

Conclusion:

A Stroke Rehabilitation Unit was organized not only for the purpose of treating patients after a cerebral vascular accident to enable them to achieve maximum recovery, but also to demonstrate the value of utilizing existing facilities for this type of program. Although problems were encountered in regards to the conversion of this particular ECF as outlined, they may be unique for this particular community. Only time can tell whether or not the current operational program will be sufficient to carry out the objectives of the project.

SCRMP Heart Disease and Stroke Activities, 1967-1969

Heart disease and stroke in their most widespread forms are manifestations of a single process: obstructive atherosclerosis. The care of patients who suffer from diseases in this category generally falls to the closely allied specialties of internal medicine, cardiology, neurology and cardiovascular surgery. From the earliest planning stages of the SCRMP, these two groups of diseases have been considered together.

In July, 1967, as a first step in regional planning, the SCRMP staff began a survey of regional needs and resources. This survey included visits to community hospitals and to other facilities in an attempt to characterize the need and availability of special services for heart disease and stroke patients, such as coronary care units, physical therapy programs and x-ray departments equipped for cerebral arteriography. In December, 1967, the

results of this survey formed the background to the agenda of a planning study group on heart disease and stroke. Meeting in Columbia, this group consisted of fifteen physicians and para-medical specialists from communities of varying size throughout the state. Dr. J. Gordon Barrow, Coordinator of the Georgia Regional Program and a widely recognized authority on heart disease and stroke, served as consultant for the group. Recommendations from this planning study, as approved by the Regional Advisory Group, formed the basis for priorities that have subsequently guided the development of SCRMP heart disease and stroke activities. These priorities were:

a. to encourage the purposeful application of continuous cardiac monitoring and related techniques of acute coronary care in community hospitals throughout the region.

b. to devise and evaluate methods of population screening for risk factors related to stroke and ischemic heart diease.

c. to promote comprehensive care programs for stroke victims, especially through demonstration and educational projects.

d. to confirm and support the role of existing state-aid heart clinics as centers of excellence for patient diagnosis and management and for continuing education of physicians and nurses.

The establishment of these priorities led to the development of specific operational projects. Leading physicians, many of whom had contributed their services to the SCRMP as members of the Regional Advisory Group or as participants in planning studies, devoted considerable time and effort to the design of eleven projects in the heart disease and stroke category. Following review both at regional and national levels, ten of these projects received grant awards, beginning August 1, 1968. Subsequently, seven additional heart disease and stroke project applications have been reviewed. Although none of these projects has actually received an award of funds, largely because of restrictions on Federal fiscal policy, four have been approved and one is undergoing revision prior to resubmission.

Of the initial operational projects, the largest group was concerned with coronary care units. Four major hospitals in the state received modest grants to support educational programs in coronary care for nurses and for physicians. These projects have provided for such needs as salaries for key nursing personnel and audio-visual teaching materials. In September, 1969, representatives of the Task Force on Coronary Care Units of the South Carolina Heart Association visited these projects in order to assess their value and effectiveness. In each project, it was clear that grant funds had made an important contribution to the coronary care unit concerned.

A fifth project, sponsored by the University of South Carolina School of Nursing, received a limited award to permit further planning of a CCU Nurses' Training Program. Miss Madelon Henderson, R. N., Assistant Professor of Nursing, was appointed project director and has developed an outstanding training course. In two course sessions to date, a total of 45 nurses have been trained intensively for CCU responsibilities.

The principle emphasis of SCRMP CCU planning at present is to promote a comprehensive program especially designed for smaller community hospitals. This comprehensive approach includes individualized planning for CCU services in each hospital; appropriate training for nurses and physicians; the development of a communications system for ECG transmission to a central monitoring location in a well-established CCU of a large community hospital; and the development of a patient registry that will provide data essential for adequate evaluation of the impact of the program. Similar programs, based on telephone transmission of ECGs from the smaller hospital to a large CCU, are currently in successful operation in a number of regions, including Georgia, North Carolina



At a Statewide Conference on Cardiopulmonary Resuscitation, Connie Campbell of Columbia's Baptist Hospital and Dr. John Steinhaus of Emory watch CPR Task Force Chairman Dr. Ambrose Hampton demonstrate technique. The South Carolina Regional Medical Program funds the Heart Association's Cardiopulmonary Resuscitation Training Project.

and Tennessee.

Another outstanding project initially funded on August 1, 1968, is the Cardiopulmonary Resuscitation Training Program sponsored by the South Carolina Heart Association. (Figure I) With Mr. Alexander DuHays as project director and Dr. Ambrose Hampton as Medical Consultant, this project has been exceedingly active and successful. Training is based upon the techniques developed by the CPR Committee of the American Heart Association and utilizes training manikins and films extensively. Three programs have been conducted to train CPR instructors. Project personnel have conducted short courses for community hospitals in 25 of the 41 South Carolina communities that have at least one hospital.

Two additional projects have supported educational activities in the Florence Heart Clinic at the McLeod Infirmary and in the Spartanburg Heart Clinic at the Spartanburg General Hospital, with Dr. N. B. Baroody and Dr. J. P. Coan as project directors. These clinics have successfully expanded their educational programs and their experiences will provide an essential background for a future SCRMP effort to provide similar opportunities in other heart clinics throughout the region.

Dr. Robert R. Taylor and Dr. Joseph Taber of Columbia have been project directors for two closely related projects that have assisted in the establishment of an acute stroke unit and rehabilitation services at the Columbia Hospital. This demonstration project has clearly shown the feasibility of establishing such a specialized unit in a major community hospital. The project has sponsored an active educational program, including seminars conducted by outstanding neurological consultants.

From the earliest organizational stages of the SCRMP, the South Carolina Heart Association has taken a leading role in program activities. With Dr. J. P. Coan as chairman, recently succeeded by Dr. N. B. Baroody, the Heart Association's Program Committee has served as the categorical Heart Disease and Stroke Committee for the Regional Advisory Group. This committee has responsibility for preliminary review of new project applications and for evaluation of current operational projects. In May, 1969, the SCHA and the SCRMP, together with the American Heart Association and the President's Council on Physical Fitness and Sports, sponsored a national conference on Exercise and the Diagnosis, Prevention and Treatment of Heart Disease. The proceedings of this outstanding conference, chaired by Dr. Loren F. Parmley of Spartanburg General Hospital, have recently been published as a supplement to the December issue of the Journal of the South Carolina Medical Association.

The State Board of Health has played a leading cooperative role in SCRMP activities, initially through the efforts of Dr. Frank Geiger, prior to his retirement as Director for Cancer, Heart Disease, and Tuberculosis. Currently, Dr. William C. Marett, Chief of the Bureau of Adult Health Services, continues to make valuable contributions to SCRMP activities.

In the 18-month period during which SCRMP projects have been active, substantial progress has been made toward program goals in Heart Disease and Stroke. Effective cooperative relationships have been established. Especially through educational activities, individual projects have made outstanding contributions to the care of heart disease and stroke patients throughout South Carolina.

CONTINUING EDUCATION FOR NURSES: A SOUTH CAROLINA REGIONAL MEDICAL PROGRAM CHALLENGE

BLANCHE I. UREY, ED. D.*

In the State of South Carolina, the active nurse population outnumbers the physician population by about a three to one ratio. Using this rough measure, one can safely project that a significant impact on health care is made by the nursing group and the ancillary personnel under nursing direction. So interdependent are nursing and medical responsibilities that the level of health care will change only when both groups mutually advance in concert. The South Carolina Regional Medical Program, mindful of its commitments to quality health care, is now looking seriously at its responsibilities to both groups particularly as related to continuing education.

Continuing education involves those opportunities that further and extend the parameters of an individual's knowledge and skills. For the nurse practitioner this education may involve refresher courses, updating present practice, preparing for a specialized area of practice, or any combination of the three. It is also recognized that the practitioner can no longer assume full responsibility for this self-development in a rapidly developing, technological health care system.

Who then carries the responsibility for providing the learning opportunities? Traditionally, schools of nursing and institutions employing nurses accepted the burden either in the form of advanced or in-service education. This is still the case in South Carolina. A more realistic view suggests that continuing education for the varied health practitioners must be a shared and collaborative venture involving all resources available. Regional medical programs offer a framework by which these resources and manpower can be brought together in an organized and deliberate way.

The beginnings to this approach can be seen by viewing programs sponsored by South Carolina Regional Medical Program thus far. Primary concerns have been in the areas of acute, life or death problems associated with heart disease, cancer and stroke. As part of the projects to develop coronary and stroke care units in various hospitals throughout the state, in-service training programs have been initiated to insure adequate personnel for these facilities. Such hospitals as York County and Spartanburg General conduct training courses for their nursing personnel under Regional Medical Program funds. However, an even larger number of hospitals not funded by Regional Medical Program offer similar programs with considerable success.

On a state-wide basis, the recently initiated coronary care program at the University of South Carolina now makes initial preparation of coronary care nurses available to all institutions. The purchase of the ROCOM Instructional System in Coronary Care by South Carolina Regional

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Medical Program will soon provide additional supportive assistance to hospitals throughout the state. This programmed system, when used in conjunction with an ongoing educational program, will reduce instructor time and make various audio-visual teaching aids available.

The educational challenge to South Carolina Regional Medical Program, however, does not lie in its response to these episodic illness areas such as coronary care. Our continuing education needs are far greater than preparing a few technical specialists however critical these individuals might be. As in medicine, the problems of updating nursing practice are great and the quality of health care will be determined by this updating rather than by support of isolated, single purpose programs.

Among nurse practitioners, there is a prevalent feeling that regional medical programs are only concerned about physicians. As nurse consultant to South Carolina Regional Medical Program, I know that this is not so. Established as priority are those activities to extend South Carolina Regional Medical Program's participation in health care planning and continuing education for medicine, nursing and allied health groups. To-date, South Carolina Regional Medical Program has co-sponsored educational television programs, various conferences related to categorical diseases to which all health care groups were invited and has developed distributive media for sharing information.

The prescription for South Carolina Regional Medical Program in the area of continuing education then, would be that of moving from projects that have continuing education as a secondary goal to programs that respond to the overall educational needs of the practitioner. To identify these needs, particularly in nursing, key nurses and employers in the state must be involved in planning, particularly toward the development of an educational blueprint. South Carolina Regional Medical Program must be able to reach out into the communities to provide assistance and consultation. North Carolina has developed a staff of expert circuit riders who provide conferences tailor-made to an institution's needs. We should explore this possibility for South Carolina. Individuals who could function as teachers and consultants for South Carolina Regional Medical Program's educational programs must be enlisted to augment the present roster of core staff. What is projected for South Carolina Regional Medical Program and constitutes its challenge is that of using its resources as an aggressive change agent with continuing education for all health practitioners including nursing as the impact point.

CONTINUING MEDICAL EDUCATION IN THE COMMUNITY HOSPITAL*

The community hospitals of our country and their respective staffs provide the greatest amount of medical care for our people, have the major resources for solving the crisis in health care delivery with which we are now faced, and have the greatest untapped potential for expansion of undergraduate, postgraduate, and continuing medical education programs.

It is not surprising then why the focus of attention of medical educators and those interested in health care delivery is not being directed towards the community hospital. The relative indifference of most medical school centers that led to the "gown vs. town" disenchantments of the past is disappearing. With this new awareness of the role of the community hospitals and its obligation to medical education has come the realization that a team approach is required if there is to be success. Only then can the continuum of

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medical education initiated in medical school be expected to last throughout the physician's career, helping him provide the best medical care possible to the patient he serves. Instrumental in developing and fostering this team approach in our State has been the Regional Medical Programs of South Carolina.

The methods developed in any given community hospital to provide continuing medical education to its staff is an individual matter and there are many approaches that may be made to accomplish the educational goals with equal efficacy. The type of programs will depend on the local professional environment, the existence of undergraduate or postgraduate training programs, and the particular likes or dislikes of the attending staffs as well as many other variables. The purpose of this article is to describe some of the problems and approaches we have made or plan to make for a Continuing Medical Education Program at Spartanburg General Hospital with the hope that it may help others in developing programs suited to their particular needs.

From the beginning, any Continuing Education Program faces two formidable obstacles. The first is the most important——it is TIME. The busy practicing physician, even though he may welcome the program and recognize that some form of continuing medical education is of great importance in maintaining his competence, is often overworked. By the end of the day, he may be so tired that only reading a selected medical literature would be difficult even though it were edited and organized for his particular interests. Facing the demands of his patients and obligations to his family he may be unwilling or unable to devote specific time periods to a structured program. The second problem, more a logistical than a communications problem, is that of the heterogeneity of the community hospital staff with the many different educational interests and needs of the members of the professional community that must be met if the program is to serve all.

To surmont these obstacles, it is necessary to develop a program that is structured to both the needs and work-day of the physician engaged in Family Practice, yet one that will appeal to the many different medical and surgical specialists who might require a more specific and sophisticated approach. Dissemination of medical information to these varied groups requires a multi-faceted educational program. It must be one that is geared to presentation of different, though appropriate educational material to the varied and often small groups of professional personnel at frequent intervals, and at a variety of times during the day. Remembering the well known dictum that the teacher often learns more than the pupil, it is essential to involve as many of the professional medical community in the actual teaching process as possible. Also, the stimulation of the program by consultants from the Medical University of South Carolina and other medical centers throughout the U. S. has been of value in maintaining the momentum of the program and serves to infuse new concepts in the practice of medicine and surgery as well as introducing different teaching techniques.

The time problem may be approached in several different ways. Since a program that continually takes one away from practice for educational activities is usually doomed to failure, educational programs may be scheduled at a time when the physician is less apt to be engaged in his practice. The best example is at his meal times. Thus, breakfast clinical seminars, luncheon grand rounds, and dinner lectures have proven to be times that have attracted many.

To appeal to those who may only find free time that might be devoted to educational pursuits at odd periods throughout the day, a Learning Center is being developed within the hospital. This Center will have as its base, the Medical Library with at least the core[1] library of textbooks and periodicals with a well lighted and comfortable reading room.

Taking advantage of the technological advances in automated teaching, it is planned to have an important addition to this conventional library in an adjacent conference room area. Here will be located a variety of audio-visual teaching aids including a library of audio-tapes and other equipment that the physician may use at his own convenience at an appropriate point in his busy schedule when he has found that rare bit of extra time.

Eventually, it is hoped that the Learning Center will expand its audio-visual capabilities so that it may provide a ready reference library or consultation service on a variety of medical problems for use of the physician who may be seeking information to refresh himself in respect to any number of medical problems with which he might be faced.

The use of cine films and now the availability of video-tapes with closed circuit television monitors within the hospital provide us with another means of circumventing the time problem as well as the difficulties caused by the heterogeneity of the professional staff. By placing TV monitors in strategic areas of the hospital, such as doctors lounges, an individual may choose selective programs that appeal to his particular specialty interest. By providing a variety of programs, including those of a very specialized nature and at appropriate times during the day, each member of the staff will at one time or another have the opportunity to view a program directed toward his specialty practice.

The Medical University of South Carolina and the Regional Medical Programs will play an interesting role in augmenting and developing Continuing Education Programs in the community hospitals of the State. Through a regular program of visiting professors from the Medical University, we have been greatly benefited. Not only is this true from the medical education standpoint, but also because it provides for personal contact and fosters better understanding of professional problems between the physicians of the community hospital and the Medical University. The widening and further development of communication networks between the Medical University and the community hospitals of the State, as in the Pediatric Cancer Project of R.M.P., has great potential in furthering understanding between these various medical communities.

Undergraduate and graduate medical education programs are not necessary for a viable Continuing Medical Education Program in a community hospital. If the hospital is of sufficient size and has an attending staff that is committed to the great expenditures of time required by a teaching program and is willing to support the financial burden of such programs, the presence of students, interns, and residents will undoubtedly stimulate and improve the over-all education program.

Though undergraduate and post-graduate medical education programs are not prerequisites for a good Continuing Medical Education Program, the community hospital has always had opportunities for the education of medical students, interns, and residents. This is now more evident as changes are being made in the medical school curriculum, especially since it now is recognized that the student should be acquainted with the practice of medicine in the community environment whether it be rural, or urban. Further, medical school centers have primarily become referral centers for special diagnostic studies or specialized medical or surgical treatment, often with research orientation. This is as it should be, but with the increasing size of the student body in most medical schools there will be a dearth of patients presenting the more common medical problems. The ratio of teacher-physician to medical student, already inadequate, will also be diminished. To counter these challenges to the student's educational opportunities, the community hospital can offer a stimulating medical environment, adequate numbers of patients with a wide variety of ills, and many physicians who are also excellent teachers.

It has always seemed ironic that the

resident physician or the young staff instructor who may be considered an effective teacher in medical school is no longer regarded as a teacher once he leaves, even though he may have become a more experienced clinician. This is not as paradoxical as it may seem, for the medical school must maintain quality control over the education of its students. This is where the importance of a good continuing medical education program becomes evident. Although it is not dependent upon undergraduate medical education programs, the latter, if they are to flourish in the community hospital are contingent upon an effective and good continuing medical education program. Further, they are dependent upon an attending staff in the community hospital that is committed to and organized for medical education. In this circumstance the community hospital and its staff must be willing to have quality control of their educational activities monitored by the medical school which has entrusted its students to the community hospital for clinical experience and training.

In the area of post-graduate medical education there are certain specialties where the community hospital has unique training advantages over the medical school center, either for an entire training program or as a complement to other programs. This will be particularly true in regard to the training programs that will be developed for the new specialty of Family Practice.

It would be remiss of one not to mention the importance of Continuing Medical Education Programs of the community hospital in the education of allied health personnel. Also not to be underestimated is its influence on the education of the consumer of medical care which will be necessary for improvement in the health care delivery systems. The impact on the youth of the community and their encouragement to enter the health professional fields that are so understrength should be emphasized. Thus a Continuing Medical Education Program should hold seminars and work shops that bring together physicians, allied health personnel, and members of the community to work together for the better health of all in the community.

It can be said without fear of contradiction, that the medical profession wants to provide good medical care for everyone. The importance of Continuing Medical Education in the Community Hospital is that it will help assure, not only good medical care but continuing improvement in medical care for all in the community.

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WHO IS, AND WHAT IS THE ROLE OF THE CONSUMER IN HEALTH SERVICE PLANNING?

VINCE MOSELEY, M.D.
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As a rhetorical question, the answer to who is the consumer is dependent upon the context in which it is asked. In the context of health service it is a person for whom plans are made for the supply of certain services from some area within the broad field which embraces both medical environmental and social services in respect to the current definition of health.

Good health at one time was limited to the concept of the absence of disease in a person — a purely medical definition. Today, *good health* or *the state of being healthy*, by definition of the World Health Organization, means a state of complete physical, mental and social well being, not merely the absence of disease or infirmity. This concept has been incorporated in official federal policy along with the legislative declaration by Public Law 89-279 that all citizens have, as a right, good health, and by corollary, the right to full availability of optimal medical care and health services.

It is essential in view of such sweeping declarations as this to establish, I believe, for purpose of this and all discussions related to these problems, certain other definitions.

For although "health services" encompass a broad area, and may involve many people with a variety of professional and technical skills needed for design and performance, and may encompass a whole community, or may be given to only one person; "medical care" is always limited to *one person.* A physician is the provider, and one person, the patient, is the recipient of the care. *Any citizen* in a broad sense may be an actual or potential consumer of health services, but only a patient receives medical care. While it is true that consumer concern and effort may lead to the provision of physical or other facilities, or better communication or transportation, or environmental changes which may lead to improved opportunities for medical care, or practice, the actual performance can only be conducted by a qualified physician, and can be received only by a person who requests care as a patient. It is extremely important that these contexts be kept quite clear for only physicians can alter medical care and practice, whereas "health services" may require a variety of individuals and sources of support for their proper conduct.

The use of the term consumer has been a source of irritation to many when used in the context of the marketplace to suggest that health services and medical care are actions similar to those of a provider of goods or services based purely on a supply and demand basis, and thus that the laws of supply and demand would govern here as they do in other areas of the economy. Those in the health fields who give services or medical care have been spoken of by some as providers and purveyors, thus indicating that purchase requirements would be all that would be necessary to inflate supply along with inflated demands. As a result of the quite evident failure of the expectations engendered by this concept, and with the expenditure of large sums of money with no evident change, many cries of alarm, distrust, frustration, and derogatory criticism are being directed towards physician in general, and as members of organized professional groups.

For although much has been said and written of plans to enlarge or control systems and methods for the delivery of health care and services, basically the average citizen realized that ultimately medical care, and in general, health services are the responsibility of the physician, and when large plans not based on a careful calculation as to the actual resources available are proposed and promulgated, but fall short of the promises given; then it is to be expected that in expressing frustration, the target must be the one who is held ultimately responsible by those who are thus disappointed.

As part of the egalitarian revolution of the past 36 years, the federal government has declared itself to be an active agent in the promotion and provision of the good life, and, by implication, good health for all its citizens.

This is idealism in general, but generalization doesn't truly identify problems or offer solutions. A man suffers, not mankind. A man, or a group of men, find answers for difficulties, not "man" in the general sense. A community of individuals has individual problems, some in common, but also as varied as the persons involved, varied as to likes, dislikes, personal abilities, genetic determinants, and all the other factors which influence life and living. This is not to say that cooperative efforts and discussions are not needed and important in making life more pleasant, and safe and productive for groups of similar or dissimilar composition, but long-range objectives must have reasonably achievable goals attainable from within the resources that are available. Although reach often exceeds grasp, if grasp is falsely promised on too many occasions, frustration usually leads to either apathy or violence. Because most generalized schemes neglect to consider the individual, then, in time, the idea of compulsion often is then entertained as a means to a good end — a real danger to both liberty and law in any nation.

Spending large sums of money to increase quantity often dilutes quality. On the other hand, excessively rigid concern for quality alone may reduce quantity. As examples, placing excessive demands on a physician leaves less and less time for an individual, but on the other hand excessive elegance in techniques and specialized equipment, to be used exclusively for certain types of seldom needed operative or diagnostic procedures, by diversion of space, people and equipment is an example of how excessive stress on quality may displace many with more commonplace illness, and seriously impede the quantity or services available.

Thus it should be evident that often decisions made in favor of the development of certain specialized services, through ideal for a few, may be harmful for many. Quality and quantity require carefully considered judgments and only by those who are ultimately responsible.

Up to this point I have dwelt more on the role of the physician or health professional in planning for health services, and his as the sole and legitimate person who can decide his role in medical care, and little up to this point has been said about the consumer or concerned citizen's role in planning for health services. An increasing interest in participating in the process of health planning based on the accounts of various news and other mass media, magazine articles, reported proceedings of conferences, and frequent bulletins issued by government agencies and by a number of professional, non-professional, and variously organized groups, is an interest and activity of considerable proportions and one of increasing organizational strength. Among the factors which have been responsible for such increased interest during the past 25 years is that of health insurance. This and other health-related benefits have assumed an increasing area of importance in the benefits employed in hiring practices and labor contracts.

As the costs of this have risen for various reasons, it has become therefore a matter of practical economic concern for employers, employees and self-employed

citizens. Also excessive and often partially or totally unfulfilled promises of breakthroughs, wonder drugs and excessive publicity as to the wonders of medical research have aroused suspicion that these awards are somehow being held back from the public when all their anticipations have not been fulfilled.

The interest of lay persons in medical or health services is not a new experience, however; neither is it a new experience for physicians to turn to competent non-medical people for advice and guidance. We can recall the role anf influence on medical service and care of such non-medical people, for example, as Benjamin Franklin, Dorothea Dix, Florence Nightingale, Louis Pasteur, and Madame Curie, and of the benefits that have resulted in medical practice and education from the counsel of those sought out by professional associations or societies, especially for their suggestions and recommendations. The changes that Abraham Flexner, the members of the Coggeshall Committee by the Association of American Medical Colleges, or the many other such committees whose counsel has been sought over the years by the AMA are examples of non-professional groups who have exhibited a strong voice which organized medicine has sought out to listen to. One of the more recent ones, the Millis Committee, has suggested new ways and improvement in the training of physicians and for ways for improving Family Practice and many of its recommendations are now being implanted by the AMA and its program members.

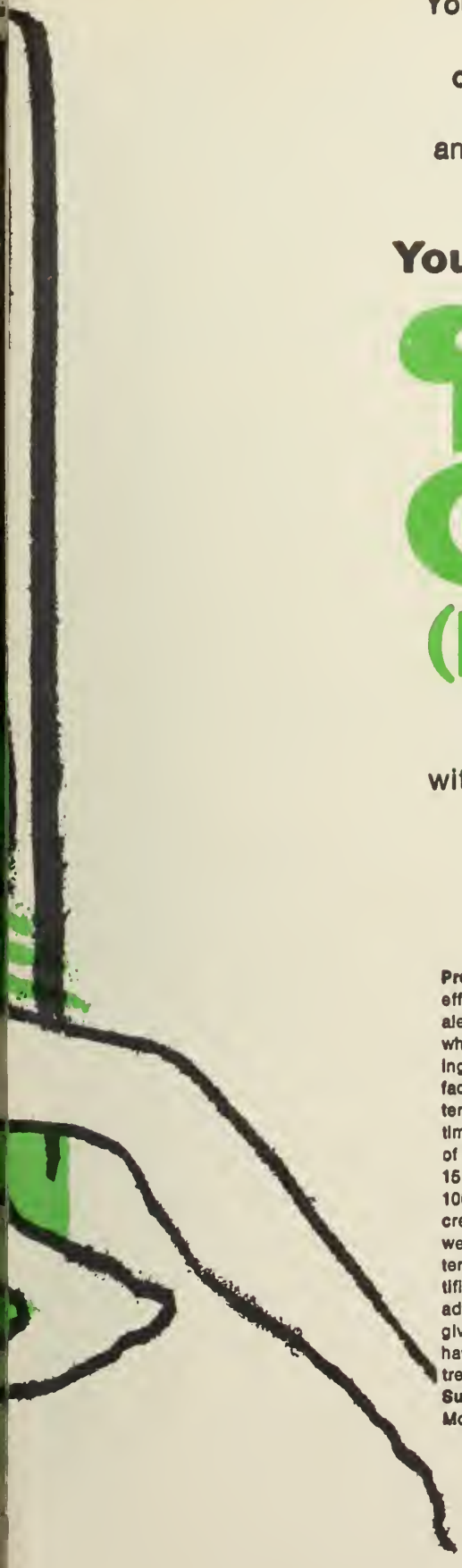
In these counsels of the past, however, the changes proposed or adopted were designed to improve the care of the patient. The consumer interest in health services today has a broader concept and in activities embracing a quite varied field of human endeavor and skills and interests which are directed in the sense of the new definition of "Health" as defined by the World Health Organization. This brings into focus new and different aspects as to the sorts of counsel which now may be needed by physicians and others when they are considering plans for health services.

In recent past years due to various pressures of a political type, steps were taken to force National programs from higher levels of government rather than proceed by local study and planning. Various groups have attempted to produce change through legislative or political action, often irrespective of or without any considered medical opinion.

In the light of cold reality it is evident, however, that although 6% of the gross national income, or some $55 billion per year, is expended in health services and medical care——and this is predicted by 1971 to rise to some $80 billion, and to 8 per cent of the total income——, and although there are some 3 to 4 million persons engaged in various fields related to health services, these services are rendered not by a national industry making or selling a standard product or commodity, nor is there a uniformity in function; nor in the various locales are health services providing identical services or fulfilling the same needs. It is a grouping of local organizations and individuals and ultimately an individual function in respect to medical care and for many services. The responsibility is quite variable from city to city, and from one rural area to another. . in many areas entirely adequate in most, if not all respects, but in many cities and rural areas grossly inadequate. This is often particularly true in areas where population and economic changes or dislocations of extreme degree have occurred.

It has also become recognized by government that although a considerable sum of money is spent from tax sources, some $14.5 billion for health services that except for $10.7 billion devoted to Medicare and Medicaid, a considerable sum, and the 2.8 billion expended on biomedical research activities, that only $200,000,000 has actually been devoted to study or the research of health care systems outside the health service systems of the government health services, such as the Veterans Administration, the Seamans Hospitals, the


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Young heads and stomachs often can't manage the pace of hurry-up-and-stop for the light... or going up hill, down hill, and around the curve. All too quickly a pleasant drive can become an upsetting trip. *Motion sickness makes children—and their parents—absolutely miserable.*

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BONINE

(MECLIZINE HCl)

Bonine protects most patients—young or old—against nausea and vomiting up to 24 hours with a single dose. Pleasant-tasting Bonine tablets are chewable. They can be taken anytime, anywhere, without water. In difficult cases, multiple daily doses may be necessary for maximum response.

Precautions: Although the incidence of drowsiness and atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. *Use in women of childbearing age:* In weighing potential benefits vs. risk in women of childbearing age, consider the fact that a review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum.

Supply: 25 mg. scored tablets.

More detailed professional information available on request.

Pfizer **LABORATORIES DIVISION**
New York, N.Y. 10017

Indian Health Service, etc. In a relative sense, a small sum as compared with the total.

It is very clear that if any problems or needs exist or if health services are inadequate, or if easier access to medical care is needed, then this can only be determined by the persons concerned by looking at the problems at the local level, on a firsthand basis. Generalizations cannot be valid.

Broad strategies and national plans are only of value for the area from which the planning data was obtained, and are therefore often othewise meaningless, regardless of the basic idealism inherent in the efforts of the planners.

The widespread intensity and frequency of cries of warning and dissatisfaction, as is currently being expressed by so many public, or publicity-surrounded figures, behooves all physicians, however, to remember that where there is much smoke, some degree of active combustion is occurring. Just as alert firemen must always heed and often use the counsel and help of interested citizens, so I believe by analogy in view of the many alarms that is is therefore important for physicians to look, see, find, and discuss ways to deal with any true or impending conflagrations which could be better impeded, controlled or extinguished with the help of interested, able, or merely fearful citizens.

In planning for health services and determining what are the needs, I believe there are several areas in which consumer or citizen interest will be most valuable. A few of these are:

First:Identification and discussion of health needs from personal observation or experience, and then looking carefully to see how frequent or widespread they are.

Second: In the establishment of priorities, where it is evident that needs and resources will dictate a gradual course of change in a community or for the addition of services or facilities.

Third: By allowing through discussion by various groups an opportunity for them to voice their fears and frustrations, either real or imagined, to reduce hostility and produce cooperation.

Fourth: Providing by individual abilities and experience, counsel in areas outside the field of medical practice, where such knowledge has real impact or importance in performance or planning; this may relate to certain technical communication, transportation, sociologic or economic problems which must be first dealt with before health service needs can be dealt with.

Fifth: The development of political support when needed. Politicians cannot provide medical services or care, but can work to obtain supports and resources. If physicians become politicians and assume an active role in politics to achieve these aims, then they are acting not as physicians, but as politicians, and will ultimately have to accede to the same pressures which a politician responds to.

Sixth: Last but not least is the opportunity for education of the individual and for his, in turn, serving as an educator to others in the community. This is an area often neglected by voluntary health agencies where too often fund raising is what the interested layman is delegated to perform, and then all educational activities are neglected until the next campaign. Education for restraint is often as vital as is education to overcome apathy. Excessive expectations unfulfilled may and do lead to apathy, but often antagonisms and hostility are also aroused.

In the educational process there is also the opportunity to clearly indicate that health services are not medical care, and that in the final analysis personal health care requires an intelligent and cooperative patient response to the ministrations of a physician, It cannot be achieved by systems or mechanical devices, nor would the average person desire such an impersonal, non-concerned relationship if it could be achieved.

If there are local health needs, then it is a proper concern for those citizens who may benefit by such services and quite proper for them to work towards their

achievement, but this should be with physical cooperation and guidance for the many reasons as previously stated. If physicians stand aloof, then those with a sense of unrequited desire often force unwise and costly moves to be taken. Increasing expenditures of public funds often result, with rising taxes, as political forces are brought into action. Surely the myth of just spending more money being a cureall must be shown for what it is-- pure myth, but it can be controlled if the truths and realities are separated from the current mythology. Through cooperative efforts, physicians and interested citizens working and talking together can achieve not only this, but also they can set reasonable goals and priorities for orderly change and improvements when they are truly needed and in the most economic and practical ways.

Schering

After only one year:

Administered to more people than live in Charleston, Spartanburg, and Greenville.*



Injectable Garamycin®

brand of gentamicin sulfate injection

*An estimated 208,000 patients have received GARAMYCIN Injectable to date. The combined population of Charleston, Spartanburg, and Greenville is 197,000. (Estimated 1969 figures from The New York Encyclopedic Almanac 1970.)

See Clinical Considerations section on last page...

Mounting acceptance in the hospital...

Proven clinical effectiveness



Respiratory Infections

Outstanding results in serious gram-negative respiratory infections[1,2]

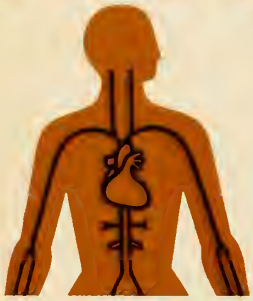
GARAMYCIN Injectable may prove successful where other antibiotics have failed.



Urinary Tract Infections

Strikingly effective in selected urinary tract infections[3]

With relatively low intramuscular doses, the promptly attained levels of GARAMYCIN achieved in the urine are considerably higher than the concentrations required for effectiveness against virtually all susceptible gram-negative pathogens. (Appropriate precautions are indicated in patients with impaired renal function; consult Package Insert for full details.)



Septicemia

May be lifesaving[4-6]

Numerous investigators have drawn attention to the value of GARAMYCIN Injectable in the treatment of gram-negative septicemias, often complicated by shock. Many hospital strains of *Serratia* are susceptible.[6]



Wounds and Burns

Response may be dramatic in wounds and burns complicated by sepsis[7]

The established efficacy of GARAMYCIN Injectable against *Pseudomonas*—as well as most other gram-negative pathogens—makes it an especially useful agent in the treatment of infected wounds and burns.

Important Precautionary Note Patients receiving treatment with GARAMYCIN Injectable (gentamicin sulfate injection) should be under close clinical observation because of the toxicity associated with the use of the drug. Ototoxicity, vestibular and auditory, can occur in patients, primarily those with preexisting renal damage, treated with GARAMYCIN Injectable for longer periods or with higher doses than recommended.

GARAMYCIN Injectable is potentially nephrotoxic, and this should be kept in mind when it is used in patients with preexisting renal damage.

This drug should be limited to the treatment of serious infections caused by susceptible gram-negative bacteria, with due regard for relative antibiotic toxicity. (See Clinical Considerations section.)

Mounting evidence in the laboratory...

Schering

Over 95% gram-negative pathogens sensitive.*

lo other antibiotic performed comparably *in vitro* against gram-negative pathogens.
ı a nationwide culture audit of antibiotic sensitivity patterns, sensitivity reports from 106 hospitals, eographically representative by census tract and of varying sizes, were analyzed. During the three-ıonth period, ***every*** gram-negative culture slip from ***every*** hospital was surveyed. The total number of ultures involved in the audit was 97,091. The total number of sensitivity determinations was 643,503.

Pathogens	Percentage of sensitive strains Number of strains tested Antibiotics*							
	Garamycin	Kanamycin	Cephalothin	Cephaloridine	Ampicillin	Colistimethate	Chloramphenicol	Tetracycline
Klebsiella pneumoniae	99.5% 962	84.7% 992	86.2% 995	76.1% 67	32.7% 1,020	96.3% 640	82.9% 1,028	77.1% 1,026
Aerobacter aerogenes	95.9% 2,739	86.1% 2,818	53.5% 2,985	58.8% 1,514	22.7% 3,066	88.6% 2,603	85.8% 3,071	67.8% 2,981
Klebsiella aerobacter group	98.8% 566	83.9% 547	66.1% 522	60.5% 276	28.0% 553	89.5% 560	86.2% 587	62.8% 433
Klebsiella, all others	92.7% 2,944	83.3% 3,186	77.4% 2,976	67.5% 627	13.5% 2,883	95.0% 2,105	81.6% 3,212	70.6% 3,063
Pseudomonas aeruginosa	91.6% 4,528	29.8% 4,460	6.6% 4,418	6.6% 1,279	6.0% 4,360	91.3% 3,852	26.9% 4,608	26.4% 4,404
Proteus, indole-positive	91.8% 1,031	85.8% 1,062	39.9% 981	54.1% 364	40.2% 1,042	10.3% 758	76.1% 1,096	42.1% 1,051
Proteus mirabilis, indole-negative	94.9% 3,272	90.1% 3,378	83.1% 3,290	77.5% 975	78.0% 3,274	8.8% 2,634	85.9% 3,469	26.8% 3,278
Proteus, unspecified	96.2% 1,335	85.8% 1,371	71.7% 1,434	70.0% 647	64.7% 1,435	11.2% 1,233	76.0% 1,421	22.4% 1,298
Escherichia coli and all other *Escherichias*	96.4% 12,557	91.4% 12,818	87.8% 12,686	88.8% 4,251	74.6% 12,899	95.4% 10,623	94.1% 13,086	70.0% 12,559
Paracolobactrum, all	93.4% 303	88.9% 325	62.0% 305	74.2% 62	43.8% 340	80.9% 215	87.1% 350	72.6% 340
Coliform bacteria	99.0% 593	91.2% 649	81.5% 637	66.7% 21	52.7% 624	95.6% 607	91.6% 678	76.1% 637
Totals	95.1% 30,830	80.5% 31,606	65.3% 31,229	68.1% 10,083	50.3% 31,496	75.8% 25,829	79.7% 32,606	56.5% 31,070
Gram-positive (included for consistency with Package Insert, not an approved indication)								
Staph—*S. aureus,* coagulase-positive	97.4% 1,548	88.8% 1,458	97.7% 2,050	98.7% 636	61.1% 1,559	20.4% 628	94.4% 2,123	83.7% 1,966
Staph—*S. aureus,* unspecified	99.3% 993	92.8% 902	98.1% 1,289	95.3% 213	45.8% 1,153	29.3% 116	96.4% 1,427	82.3% 1,360

*Adapted from a three-month, nationwide hospital audit by R. A. Gosselin and Co., Inc., Dedham, Massachusetts (mid-May to mid-August,1969).[8]
Antibiotics with significant gram-negative spectra are included. Organisms are listed as reported by laboratory.
Sensitivity testing was done by the disc method, a generally reliable test in the hospital setting. It should be noted, however, that the results with GARAMYCIN were somewhat higher than the results reported where the tube dilution technique was used. (See Clinical Considerations section which follows.) The concentration of the GARAMYCIN disc was 10 mcg.
Whereas standard testing methods were used by all hospitals, it is acknowledged that in a survey of this kind considerations such as differences in methodology are possible sources of error. The comparative percentage-sensitivity results derived from a survey of this kind are, therefore, not absolute. One should keep in mind also that the proper selection of an antibiotic is based not only on susceptibility testing but on relative toxicity and other clinical considerations as well.
It is felt, nonetheless, that the broad scope of the survey and the extreme care in data collection and tabulation permit a conclusion that the results are *generally* representative of current nationwide antibiotic sensitivity patterns.

Injectable Garamycin®
brand of
gentamicin sulfate injection

See Clinical Considerations section on last page...

Injectable Garamycin®

brand of gentamicin sulfate injection

ADULT DOSAGE GUIDELINES

See definitive prescribing information in Package Insert.

Patients with Normal Renal Function

Total Daily Dose (administered in two, three, or four divided doses)			
Urinary Tract Infections (due to susceptible strains of gram-negative bacteria)†	**Less Severe** 0.8-1.2 mg./kg. for 7-10 days	**Resistant/ Moderately Severe** Larger doses or additional antibacterial therapy should be considered in severe urinary tract infections or in resistant cases involving the renal parenchyma or anatomic anomaly.	**Serious/ Life-Threatening** up to 5 mg./kg.
Other Infections including bacteremia, infected surgical wounds, severe soft tissue infections, and respiratory tract infections (due to susceptible strains of gram-negative bacteria)	3 mg./kg. for 7-10 days		

†Alkalinization of the urine may be a useful therapeutic adjunct.

Patients with Impaired Renal Function

To minimize the risk of ototoxicity in patients with impaired kidney function, only the first dose should be that normally recommended. Each subsequent dose should be half or less of that recommended for patients with normal renal function, depending upon the degree of renal impairment.

In patients with renal failure who are undergoing 14-hour hemodialysis twice weekly, administration of 1 mg./kg. GARAMYCIN Injectable at the end of each dialysis period has been suggested.

Clinical Considerations

Indications: GARAMYCIN Injectable is clinically effective in infections due to susceptible strains of gram-negative bacteria, including *Pseudomonas aeruginosa,* and species of indole-positive and indole-negative *Proteus, Escherichia coli,* and *Klebsiella-Aerobacter.* Bacteriologic studies should be conducted to identify the causative organism and to determine its sensitivity to gentamicin sulfate. Sensitivity discs of the drug are available for this purpose. If the susceptibility tests indicate that the causative organism is resistant to gentamicin sulfate, other appropriate antibiotic therapy should be instituted.

IN VITRO INHIBITION OF CLINICALLY IMPORTANT BACTERIA BY GENTAMICIN SULFATE (TUBE DILUTION STUDIES)

BACTERIA	No. of Strains Tested	No. of Strains (%) Inhibited by: 4 mcg./cc. or less		8 mcg./cc. or less*		No. of *In Vitro* Studies
Staphylococcus aureus	1,210	1,200	(99%)	1,206	(99%)	11
Pseudomonas aeruginosa	885	771	(87%)	828	(93%)	16
Escherichia coli	836	736	(88%)	779	(93%)	11
Indole-positive and indole-negative *Proteus* species	477	210	(44%)	358	(75%)	12
Klebsiella-Aerobacter species	292	205	(70%)	231	(79%)	10

*Number of strains (%) of gram-negative bacteria inhibited by 10 mcg./cc. or less are as follows: *Pseudomonas aeruginosa,* 828 (93%); *Escherichia coli,* 792 (95%); *Proteus* species, 393 (82%); *Klebsiella-Aerobacter* species, 284 (97%). From same studies as above.
Source: Package Insert

This drug should be limited to the treatment of serious infections caused by gram-negative bacteria, particularly *Pseudomonas aeruginosa, Proteus* and other susceptible organisms, with due regard for relative antibiotic toxicity. Therefore, the drug should be considered for use against gram-negative: 1. Bacteremia; 2. Infected surgical wounds; 3. Severe soft tissue infections, including burns complicated by sepsis; 4. Respiratory tract infections; and 5. Selected cases of urinary tract infection.

Contraindications: GARAMYCIN Injectable is contraindicated in individuals with a history of hypersensitivity or toxic reactions to gentamicin.

Warnings: Patients receiving treatment with GARAMYCIN should be under close clinical observation because of the toxicity associated with the use of this drug. Ototoxicity, vestibular and auditory, can occur in patients, primarily those w pre-existing renal damage, treated with GARAMYCIN Injecta usually for longer periods or with higher doses than recommen

GARAMYCIN Injectable is potentially nephrotoxic, and t should be kept in mind when it is used in patients with pre-exist renal impairment. Kidney function diminished by infection of upper urinary tract may, however, improve during effective tr ment with GARAMYCIN Injectable.

Concurrent administration of potentially ototoxic drugs such streptomycin and kanamycin or of potentially nephrotoxic dr such as polymyxin, colistin, and kanamycin with gentamicin sull has not been shown to afford any clinical advantages and, moreo may result in additive toxicity. Monitoring of vestibular, cochl and renal function will provide guidance for therapy in such ca

Precautions: In patients with impaired renal function in wh serious infection develops, serum concentrations of the drug n rise, with consequently increased risk of ototoxicity. In these tients or in those in whom recommended dosage or duration therapy must be exceeded as a life-saving measure, routine stu of kidney function should be performed when possible. These s be supplemented by evaluation of the vestibular and auditory fu tion and measurement of serum concentration of the drug wl feasible. Serum concentrations of gentamicin should be maintai below the range of 10-12 mcg./ml. to reduce risk of ototoxicity.

Ordinarily, treatment should not be given for more than 7 to days or be repeated unless required for serious infection not sponsive to other agents.

As with other antibiotics, treatment with GARAMYCIN Injecta may occasionally result in overgrowth of nonsensitive organisms superinfection occurs, appropriate therapy is indicated.

Safety for use in pregnancy or the potential for fetal ototoxicity nephrotoxicity have not been established. Studies in pregnant mals have not revealed teratogenic or ototoxic effects in the fe GARAMYCIN Injectable should not be used in pregnant patient in women of childbearing age unless its use is deemed advis by the physician.

Adverse Reactions: The overall incidence of ototoxicity conside related to treatment with GARAMYCIN Injectable was 2.8 per (16 of 565 patients). Contributory factors (two or more factors w relevant to most patients) were as follows: 10 had azotemia, received a total of 1 gram or more of the drug, 7 had recently ceived other potentially ototoxic antibiotics (streptomycin or k mycin), and 5 were over 60 years of age. Six also had decre high-tone hearing acuity, which returned to or toward norma the 4 patients retested.

Analysis of BUN data indicated that 4 (2%) of 172 patients sho increases in BUN that were probably related to treatment GARAMYCIN Injectable. Of 20 increases probably or possibly rel to treatment, 7 were reversible, 9 occurred in terminal patients, 4 had no follow-up.

Other adverse reactions associated with treatment were one inst each of urticaria, decreased hematocrit, and reversible depres of granulocytes with normal bone marrow. Other rarely repo and possibly treatment-related adverse reactions were anemia, creased reticulocyte count, rash, purpura, drug fever, hypoten convulsions, twitching, salivation, nausea, vomiting, increased tr aminase activity (SGOT or SGPT), increased serum bilirubin, creased serum calcium, and joint pain.

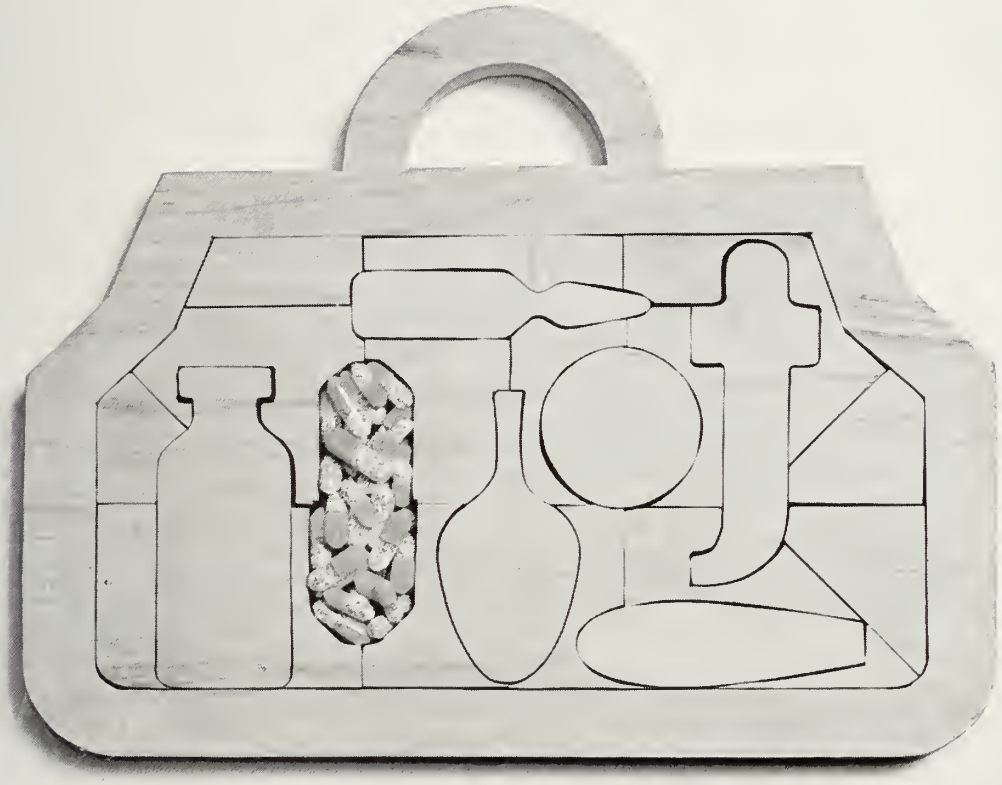
Packaging: GARAMYCIN Injectable, 40 mg./cc., 2-cc. multiple- vials, for intramuscular administration.

References: (1) Brayton, R. G., and Louria, D. B.: Gentamici gram-negative urinary and pulmonary infections, Arch. Int. *114*:205, 1964.* (2) Louria, D. B.; Young, L.; Armstrong, D., Smith, J. K.: Gentamicin in the treatment of pulmonary infecti J. Infect. Dis. *119*:483, 1969. (3) Cox, C. E.: Gentamicin, a aminoglycoside antibiotic: Clinical and laboratory studies in uri tract infections, J. Infect. Dis. *119*:486, 1969. (4) Groll, E.: Clir experience with gentamicin, data from 12 German clinics, in tamicin: First International Symposium, Paris, January Lucerne, Essex Chemie AG, pp. 121-128.* (5) Jackson, G. G.: Lab tory and clinical investigation of gentamicin, *ibid.,* pp. 62-74 Medeiros, A. E.: Discussion, J. Infect. Dis. *119*:533, 1969. (7) Polk Discussion, J. Infect. Dis. *119*:529, 1969. (8) Three-month, nation hospital audit by R. A. Gosselin and Co., Inc., Dedham, Massachu (mid-May to mid-August, 1969).

*Dosage in this investigational study was less than now recomme in Package Insert.

For more complete prescribing details, consult package inser Physicians' Desk Reference. Schering literature is also avail from your Schering Representative or Medical Services Departm Schering Corporation, Union, New Jersey 07083.

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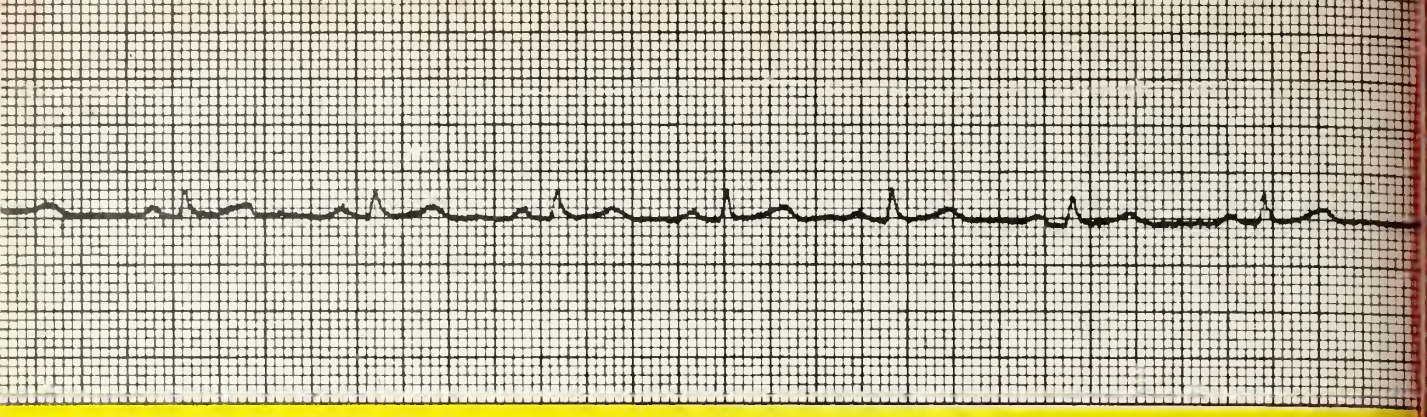
brand of chlorpromazine HCl

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brand of sustained release capsules

Available in 30 mg., 75 mg., 150 mg., 200 mg. and 300 mg. strengths.

Smith Kline & French Laboratories
Philadelphia, Pa. 19101



When disease is ruled out and psychic tension is implicated

Valium® (diazepam) helps relax the patient and relieve his somatic symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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LABORATORIES
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CHEST PAIN AND AORTIC INSUFFICIENCY

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UME 66 JULY, 1970 NUMBER 7



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Youth may have the edge in glamour. But BUTISOL Sodium (sodium butabarbital) has the solid qualities you would expect of an anti-anxiety agent whose capabilities are thoroughly established:

It's predictable.

Inexpensive.

Remarkably well tolerated.

And it does its job—smoothly and promptly.

No wonder BUTISOL Sodium has remained, year after year, among the 100 most frequently prescribed medications. Its relaxing sedative effect is often all that's needed: to help the usually well-adjusted patient cope with temporary stress... or to relieve the anxiety associated with hypertension, coronary disorders, premenstrual tension, surgical procedures, functional GI disorders, and the strains of aging.

Perhaps this is why so many physicians have maintained BUTISOL Sodium as a consistent favorite.

Contraindications: Porphyria or sensitivity to barbiturates.
Precautions: Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression.
Adverse Reactions: Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
Warning: May be habit forming.
Usual Adult Dosage: For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg.
Available as: Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%).
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THE ℞ THAT SAYS "RELAX": **Butisol** SODIUM®
(SODIUM BUTABARBITAL)

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TABLETS & GRANULES

■ to help restore and stabilize the intestinal flora

■ for fever blisters and canker sores of herpetic origin

Introduced to help reestablish the normal physiology of the intestinal tract in gastrointestinal disturbances[1], particularly diarrheas (including those resulting from antibiotic therapy), Lactinex is also useful for reestablishing the flora following bowel surgery, infant colic, mucous colitis, foul-smelling stools, pruritus ani, flatulence and hives.[2,3,4,5,6]

Lactinex contains a viable mixed culture of both *Lactobacillus acidophilus* and *L. bulgaricus* with the naturally occurring metabolic products produced by these organisms.

No untoward side effects have been reported to date.

Literature on indications and dosage available on request.

HYNSON, WESTCOTT & DUNNING, INC.

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(1) Siver, R. H.: CMD, 21:109, September 1954. (2) Frykman, H. H.: Minn. Med., 38:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., 51:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., 15:15-16, October 1965. (5) Weekes, D. J.: NY State Jour. Med., 58:2672-2673, August 1958. (6) Ellis, S. and Spratt, J. S.: JOUR. AMER. GER. SOC., 18:410-415, May 1970.

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

Contributions of Original Articles

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard— e.g. mg, ml, Gm.

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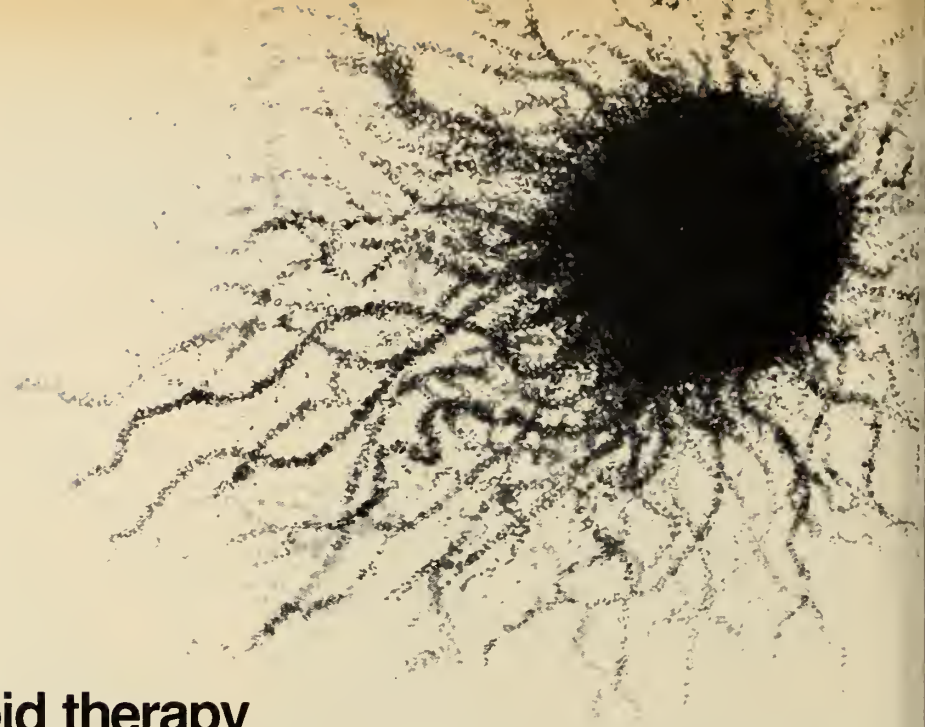
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Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose-related. Transient, reversible, nephrogenic diabetes insipidus with excessive thirst and polyuria (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: One tablet b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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Indications: For use in management of anxiety and tension occurring alone or as accompanying symptom complex to medical and surgical disorders and procedures. Though not a hypnotic, fosters normal sleep through antianxiety and related muscle-relaxant properties.

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Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythemetous maculopapuler rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated). Doses above 2400 mg./day are not recommended.

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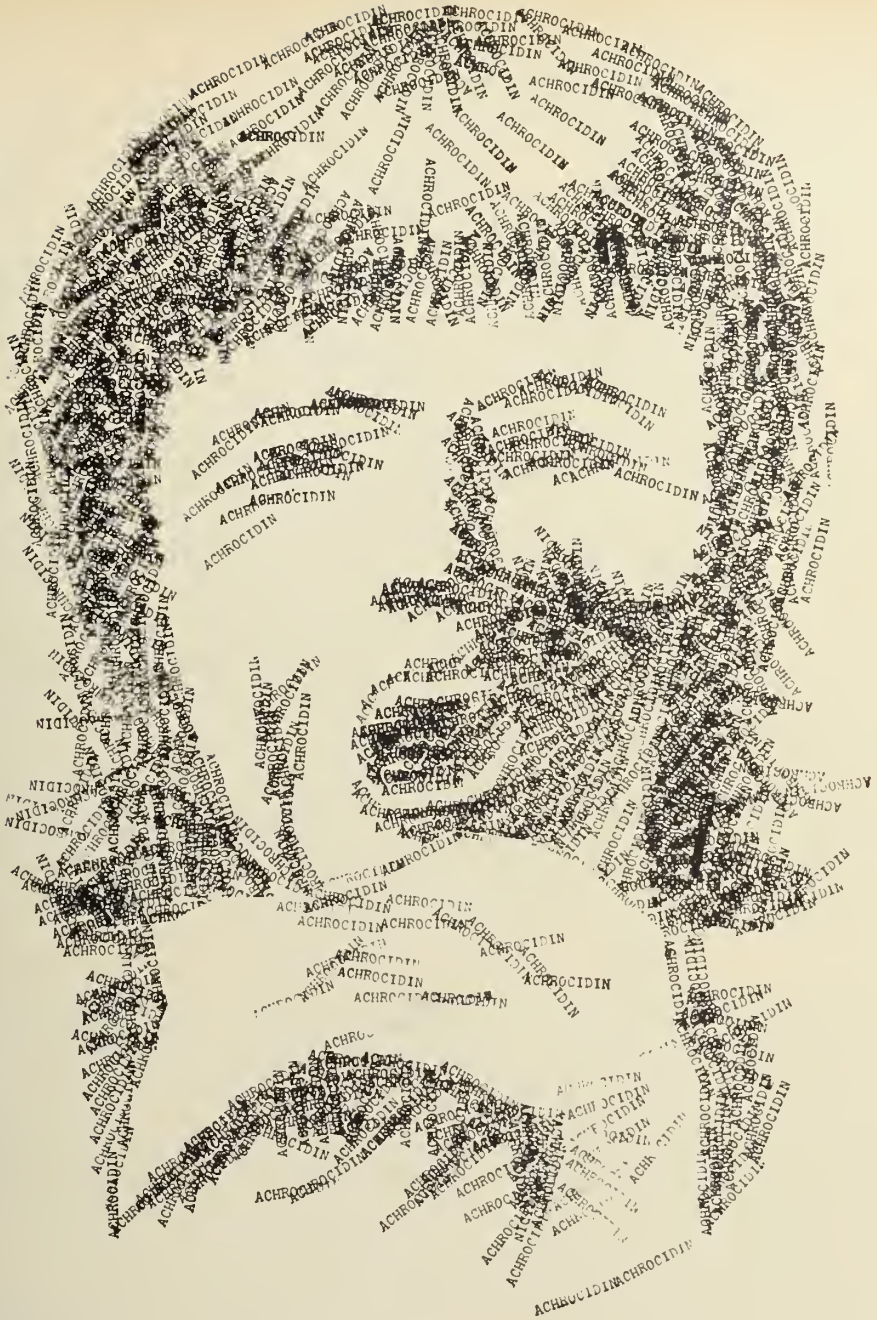
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Contraindications: Hypersensitivity to any component.

Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.

Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

Upon adverse reaction, stop medication and treat appropriately.

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CONTRAINDICATIONS: Thyrotoxicosis, acute myocardial infarction.

SIDE EFFECTS: Side effects are secondary to increased rates of body metabolism: sweating, heart palpitations with or without pain, leg cramps, weight loss, diarrhea, vomiting and nervousness. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. In most cases, a reduction in dosage followed by a more gradual adjustment upward will indicate the patient's dosage requirements without the appearance of side effects.

DOSAGE AND ADMINISTRATION: In myxedematous stupor or coma, with no evide of severe heart diseose, 200 to 400 mcg. of SYNTHROID (sodium levothyroxine) INJECTIO may be administered intravenously utilizing a solution containing 100 mcg. per ml. Detectab effects are usually observed by the sixth hou after injection and are fully appreciated duri the following day. A repeat injection of 100 200 mcg. may be given on the second day if significant improvement has not occurred. The intravenous use of sodium levothyroxine in myxedematous coma is advantageous becaus produces a predictable increase in the concentration of protein-bound iodine, eliminates the need for multiple doses until or therapy is reinstated, circumvents the uncertai of oral absorption, and avoids the risk of pulmonary aspiration.

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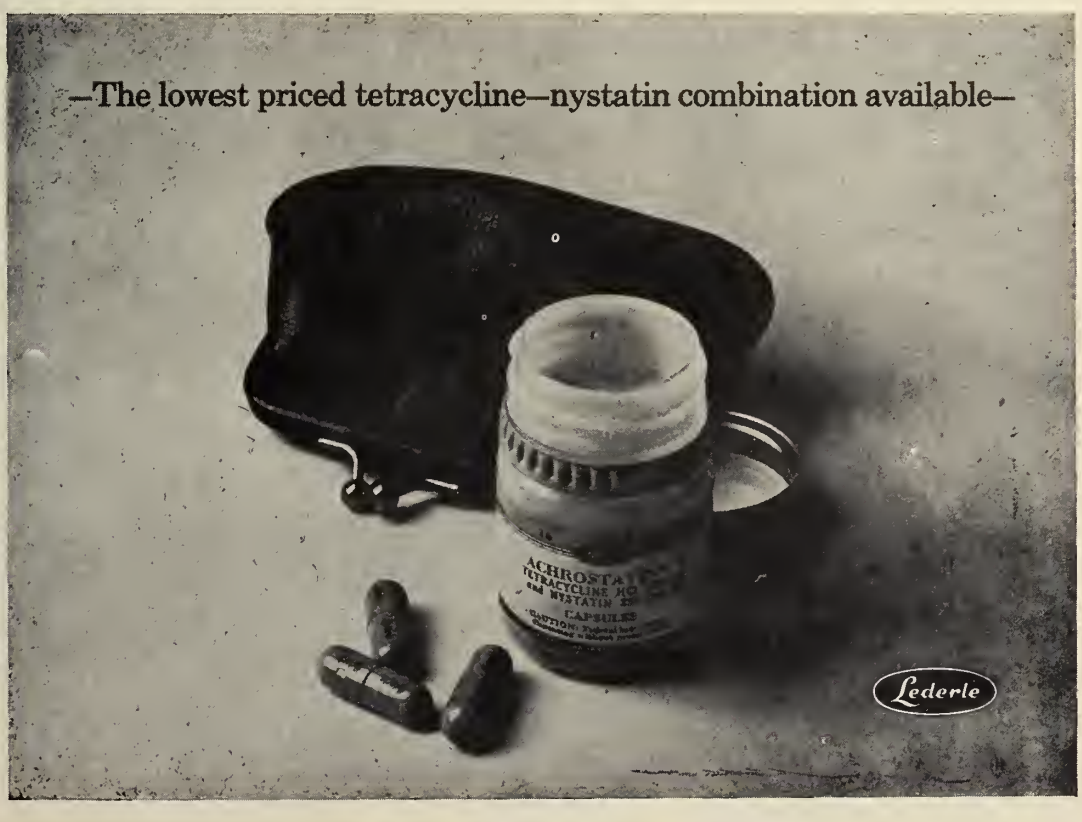
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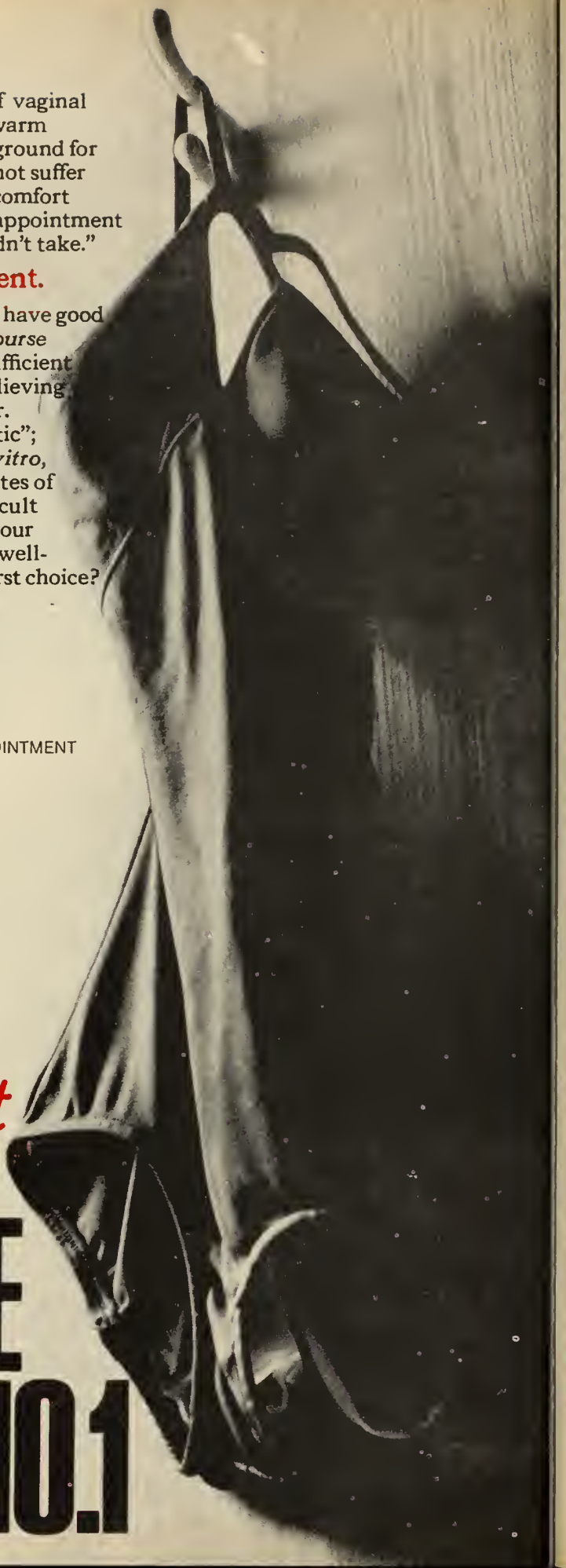
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Contraindications: Hypersensitivity to tetracycline.
Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.
Precautions: Nonsusceptible organisms may overgrow; treat superinfection appropriately. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).
Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage. Upon adverse reaction, stop medication and treat appropriately.

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Furacin (nitrofurazone) and Micofur (nifuroxime) are active against a variety of gram-positive and gram-negative organisms. Activity versus Pseudomonas sp. is limited to certain strains. Micofur (nifuroxime) is active against Candida (Monilia) albicans.

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This preparation is not indicated for use in treatment of cholesteatoma, where surgical intervention is necessary.

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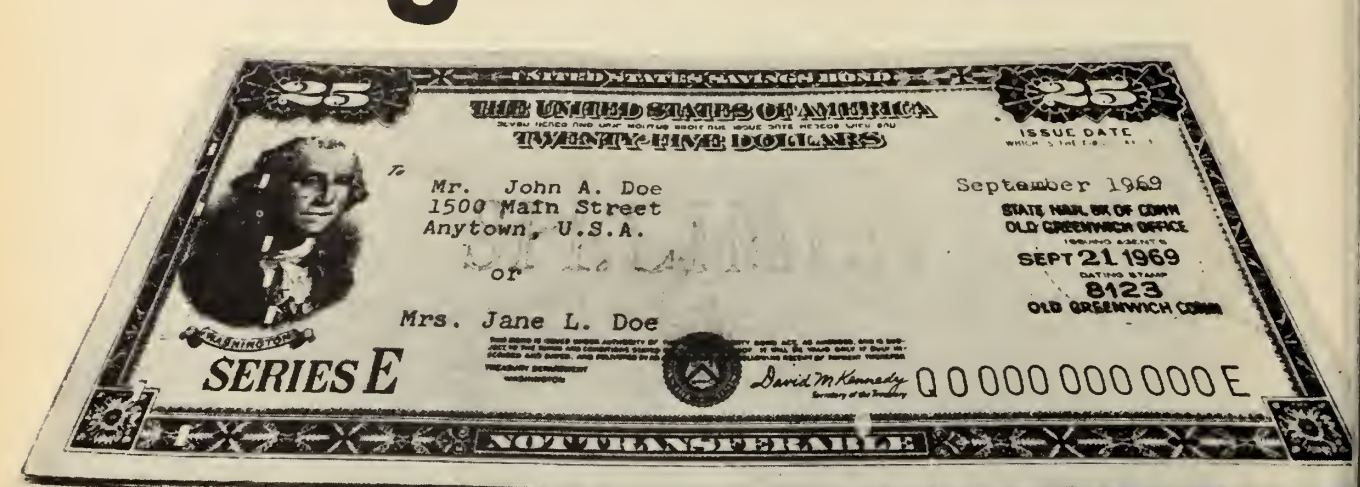
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Contraindications: Concurrently with MAO inhibitors, in patients hypersensitive to this drug; in emotionally unstable patients susceptible to drug abuse.

Warning: Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovascular disease. Do not use during first trimester of pregnancy unless potential benefits outweigh potential risks.

Adverse Reactions: Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence. As is characteristic of sympathomimetic agents, it may occasionally cause CNS effects such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported. Sympathomimetic cardiovascular effects reported include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others. Allergic phenamena reported include such conditions as rash, urticaria, ecchymosis, and erythema. Gastraintestinal effects such as diarrhea, constipation, nausea, vomiting, and abdominal discomfort have been reported. Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia. A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

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T-006A / 1/70 / U. S. PATENT NO 3,001,910

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Quinamm™ Specific therapy for night leg cramps
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0915A



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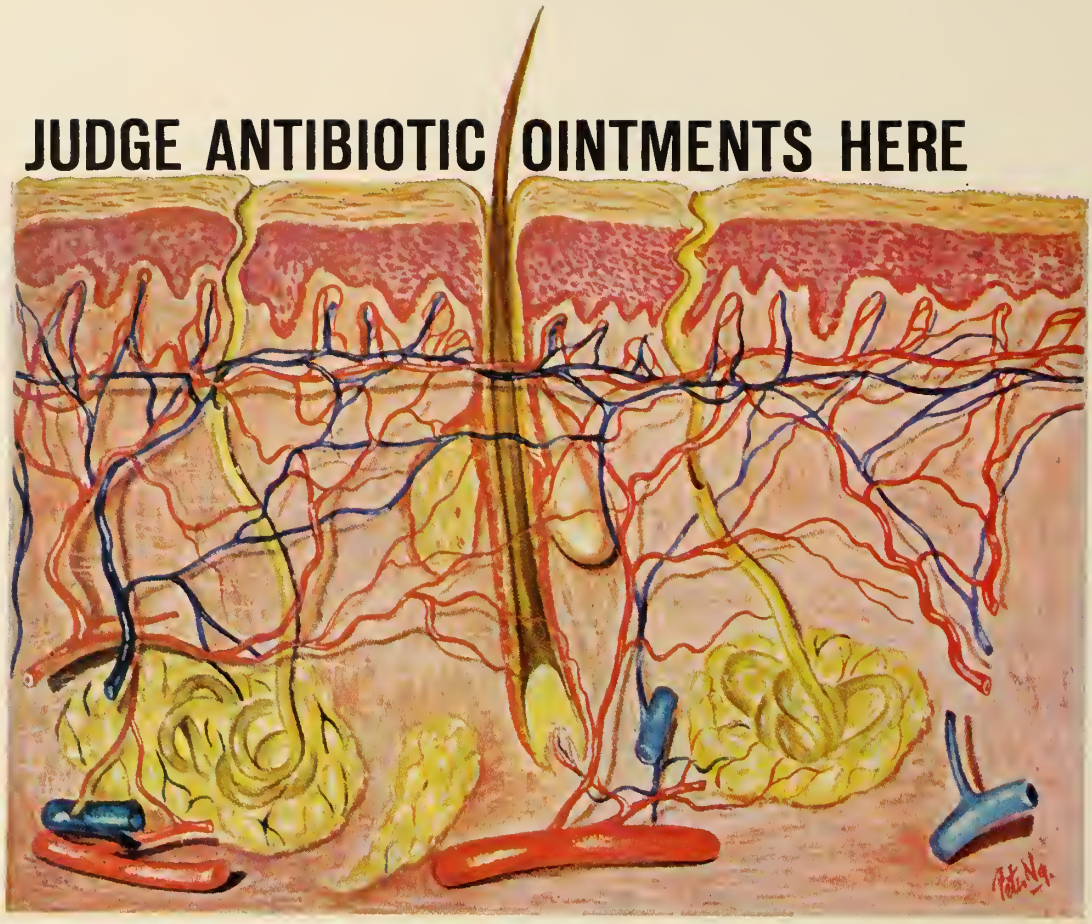
neeze. And sneeze some more. But with Novahis- ® LP, most patients get prompt and long-lasting rom the symptoms of allergies and colds. These ti uous-release tablets have a vasoconstrictor-anti- a ine formulation that begins working in minutes, ontinues to provide relief for hours. Even when a congestion is due to repeated allergic episodes, lovahistine LP tablets, morning and evening, let most patients breathe freely all day and all night. Use with caution in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result.

Novahistine® LP decongestant

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DIARRHEA (functional) . . . *the first 400 mg. tablet usually relieves the discomfort of diarrhea so promptly that it ceases to be a bother.*

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BLADDER SPASM . . . *relaxation is immediate. One or two tablets condition the bladder for cystoscopy in one hour.*

SPASTIC URETER . . . *the specific relaxing effect of Trocinate on the spastic ureter has been proven by animal studies and affirmed clinically. (J. Urol. 73:487-93)*

PRESCRIBING INFORMATION

WARNING: Do not give in advanced kidney or liver disease. PRECAUTIONS: Trocinate relaxes all smooth muscles. Large dosage or prolonged usage may cause feeling of weakness or can theoretically precipitate gall-bladder colic, due to relaxing the vascular and duct systems. Caution should be observed in patients with urinary bladder obstruction. DOSAGE: 400 mg. May be repeated in 4 hours. After relief, lengthen the dose frequency. (see side note)

NOTE: *The high therapeutic index of Trocinate permits its administration in dosage sufficient to relieve smooth muscle spasm promptly. 400 mg. dosage usually creates a therapeutic blood level. In reducing dosage after relief, lengthening the time between dosage rather than lessening the recommended dose is preferable. The prompt direct action allows a consciousness of the first suggestion of return of symptom . . . a guide to dose spacing and to determining when treatment is complete. A prescription for twelve or sixteen 400 mg. tablets will usually correct spasm and leave a few tablets for a reserve.*

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71% greater risk of coronary heart disease.*
Obesity may also aggravate osteoarthritis,
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veins, and ventral or diaphragmatic hernias.[1-3]

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phenmetrazine hydrochloride

Endurets®

prolonged-action tablets

Often effective

Controlled studies in a general patient population have shown that when Preludin is used with diet, the rate of weight loss exceeds that obtained by placebo and diet.

Long acting

Slow, even release of the active principle usually suppresses appetite continuously for about 12 hours.

Once-a-day dosage

One Endurets tablet after breakfast. It helps reduce weight and costs, conveniently.

For contraindications, warning, precautions, and adverse reactions, please see the full prescribing information.
It is summarized on this page.

Where there's no will there's a therapeutic way.

*Among persons 20% or more overweight as compared with median weight for persons of like height and sex.

1. Kannel, W.B., *et al.*: *Circulation* 35:734, 1967.
2. Thomas, H.E., Jr., *et al.*: *Med. Times* 95:1099, 1967.
3. Albrink, M.J., in: Beeson, P.B. & McDermott, W. (eds.): *Cecil-Loeb Textbook of Medicine*, ed. 12, Phila.: W.B. Saunders Co., 1967.

Preludin®
phenmetrazine hydrochloride

Preludin is indicated only as an anorexigenic agent in the treatment of obesity. It may be used in simple obesity and in obesity complicated by diabetes, moderate hypertension (see Precautions), or pregnancy (see Warning).

Contraindications: Severe coronary artery disease, hyperthyroidism, severe hypertension, nervous instability, and agitated prepsychotic states. Do not use with other CNS stimulants, including MAO inhibitors.

Warning: Do not use during the first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive.

Precautions: Use with caution in moderate hypertension and cardiac decompensation. Cases involving abuse of or dependence on phenmetrazine hydrochloride have been reported. In general, these cases were characterized by excessive consumption of the drug for its central stimulant effect, and have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations or delusions. Do not exceed recommended dosage.

Adverse Reactions: Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache.

Dosage: One 25 mg. tablet b.i.d. or t.i.d. Or one 75 mg. Endurets tablet a day, taken by mid-morning.

Availability: Pink, square, scored tablets of 25 mg. for b.i.d. or t.i.d. administration, in bottles of 100 and 1000.

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(B)R3-46-560-B

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The Journal
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South Carolina Medical Association

VOLUME 66 JULY, 1970 NUMBER 7

A COMPARISON OF TWO METHODS OF POSTOPERATIVE FLUID MANAGEMENT

H. EARLE RUSSELL, Jr., M.D. and
GILBERT B. BRADHAM, M. D.,
Charleston, South Carolina

Current postoperative care generally includes the administration of intravenous fluid and nutrients until the gastrointestinal tract appears competent to allow oral feeding. In an effort to simplify the great variety of individual regimens of fluid therapy, a study has been made of the possible advantage of using a single regimen for the patient with an uncomplicated postoperative course. If feasible, such a regimen might have several advantages. Beyond the efficiency of ordering, storing and supplying prepackaged intravenous fluids, it might be that a single regimen could be found to optimize chemical care of the usual patient.

For these reasons, chemical balance studies were carried out upon two groups of patients having uncomplicated abdominal surgery.

From the Department of Surgery, Medical University of South Carolina, Charleston, South Carolina.

Reprint requests to Department of Surgery, Medical University of South Carolina, Charleston, South Carolina 29401 (Dr. Bradham).

Method

Fifteen patients were selected for study. All patients underwent elective abdominal surgery. All patients were determined to have absence of significant renal disease. No patient required blood transfusion or colloid administration and no patient had significant fluid imbalance prior to surgery.

Six patients selected at random received Normosol-M*, a commercially prepared intravenous fluid as the only maintenance intake during three consecutive days postoperatively. The remaining nine patients all received intravenous fluids in the manner which individual house officers prescribed for three consecutive days postoperatively.

The Normosol group of six patients was given intravenous Normosol-M on the

*Normosol-M, Abbott Laboratories

Composition:	Sodium	40 mEq/L
	Potassium	13 mEq/L
	Magnesium	3 mEq/L
	Chloride	40 mEq/L
	Acetate	16 mEq/L

empirical basis of 1500 ml per square meter of body surface area per day.

By conventional laboratory techniques, daily measurements were made of the total intake and output of water, sodium, potassium, calcium, magnesium, hydrogen, chloride, urea and ammonia. The body weight, temperature, hemoglobin and hematocrit were measured daily. Serum and urine were specifically analyzed for all constituents listed above.

Table 1.—Intake

	Normosol	Control
H_2O ml/day	2356	2717
Na^+ mM/day	93	187
K^+ mM/day	31	31
Cl^- mM/day	93	175
Ca mM/day	0	2
Mg mM/day	4	39

Table 1. This table depicts the average daily intake of the listed constituents of intravenous fluid. The significant differences in the two groups are only discernible as the differences of Na Cl and Mg.

Results

The empirically significant results of this study were as follows:

1. There appears to be a tendency toward overtreatment with sodium chloride in the control group (Table 1).
2. In both groups, there was a trend toward a decrease in excretion of all chemical substance for the three-day period (Table 2).
3. There was no statistically significant difference in excretion of any single chemical substances between the two groups (Table 3).
4. There was a tendency toward a negative sodium balance in the Normosol group. This correlated well with the quantity of sodium intake (Table 4).

Discussion

It is realized at the onset of this study that these data represent an extremely limited number of patients and that individual patient variations do not, in this instance, allow valid generalizations to be made. Nonetheless, certain valid observations were made during this study which do permit comment from a clinical viewpoint.

Table 2-A—Output-Control Group

	Day 1	Day 2	Day 3
Urine (ml)	2129	1782	1509
Urine Osmolality (mOsm/L)	489	476	417
Urine Na^+ (mM)	191	155	119
Gastric Na^+ (mM)	34	35	46
Urine K^+ (mM)	4.7	6.5	12.5
Urine Cl^- (mM)	205	129	125
Gastric Cl^- (mM)	74	106	201
Urine Urea (gm)	6	4	5

Table 2-A. This table shows the daily output of the control group. Insensible water loss is not included. Note the tendency of constituents in the urine to decrease progressively and those in gastric suction to increase.

It is first noted that the existence of a "standard" maintenance intravenous solution provided uniformity in treating the uncomplicated patient. No special mixing, handling or additives had to be used with these standard solutions. Also, the Normosol group of patients received essentially the same ingredients as the group of patients treated individually (with the exception of less sodium chloride). The total fluid intake of the two groups was essentially the same, a fact which not only attests to the validity of the rationale used by a variety of the house officers ordering postoperative fluids, but also to the fact that postoperative care at our hospital has evolved to a fairly standardized regimen despite present absence of the application of formulas and equations.

It is also noteworthy (Tables 2-A and 2-B) that both groups of patients display a general diminution in their water output and in output of all other chemical constituents. Urine osmolality in both groups decreases during the three-day period.

Urine sodium output is closely associated with intake of sodium in both groups. It would appear that sodium intake is much

Table 2-B—Output-Normosol

	Day 1	Day 2	Day 3
Urine ml)	1543	1671	1351
Urine Osmolality (mOsm/L)	538	382	342
Urine Na^+(mM)	154	97	53
Gastric Na^+(mM)	30	33	10
Urine K^+ (mM)	38	33	25
Gastric K^+(mM)	6.9	5.8	4.8
Urine Cl^- (mM)	174	111	50
Gastric Cl^- (mM)	55	48	50
Urine Urea (gm)	4	5	3

Table 2-B. This table depicts the output of the Normosol group. Insensible water loss is not included.

the more determinant feature of sodium loss than is any other physiological control mechanism in these patients. It is interesting also to note that the standardized sodium intake of 93 mM per day appears less than is required by the first group of patients and that a net negative balance ensues. The much more vigorous use of sodium in the control group (187 mM per day) results is a barely positive balance three days later.

Table 3—Output

	Normosol	Control
Urine (ml/day)	1519	1692
Gastric suction (ml/day)	450	507
H_2O (total ml/day)	1969	2199
Na^+in urine (mM/day)	101	146
Na^+ (total mM/day)	116	167
K^+ in urine (mM/day)	32	40
K^+ (total mM/day)	336	44
Cl^- in urine (mM/day)	112	144
Cl^- (total mM/day)	146	207

Table 3. This table compares the average daily output of the two groups of patients. The two groups are remarkably similar except in the case of sodium and chloride.

The most pertinent observation is derived from Table 3. It is difficult, except for sodium loss, to distinguish any differences between the two groups. This observation would lead one to state that given essentially the same inputs, two independent of the manner in which the patients were divided and treated (with the exception only of sodium and chloride), they are indistinguishable.

Table 4—Three-Day Balance

	Normosol	Control
H_2O (ml)	1161	1554
Na^+(mM)	279	60
K (mM)	15	39
Cl (mM)	159	96

Table 4. This table depicts the difference of intake and output for both groups over the three day postoperative period. The positive balance for water is probably not real in that insensible water loss would generally be more than the amounts listed. Negative balance for sodium and chloride in the Normosol group appears to be a product of less administration of salt to this group.

groups of patients react remarkably similarly in the use and disposal of intravenous nutrients.

Finally, the overall view of balance data provided in Table 4 again shows that

Summary

Two groups of uncomplicated postoperative patients were treated by two modes of postoperative fluid therapy. One group received a strict, calculated regimen of fluid and electrolytes. The second group was treated only as seemed reasonable by the house officers.

The two groups appear distinguishable only by the quantities of sodium and chloride administered and excreted.

The strict regimen was easier and more efficient and gave equally satisfying clinical results.

Acknowledgement

These studies were supported by funds from Abbott Laboratories, North Chicago, Illinois.

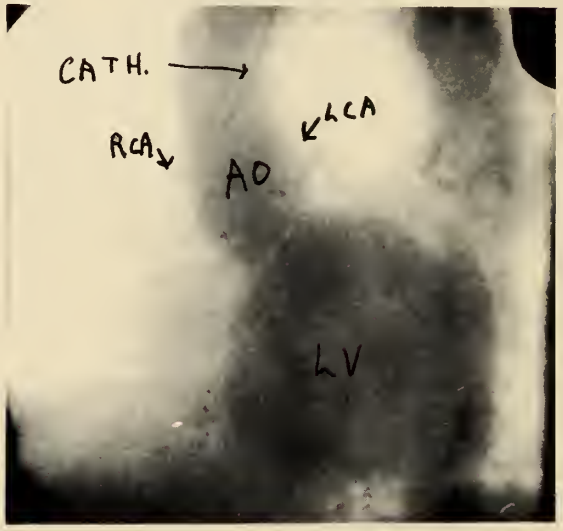
SOUTH CAROLINA HEART ASSOCIATION
CARDIOVASCULAR CASE OF THE MONTH
CHEST PAIN AND AORTIC INSUFFICIENCY

R. RANDOLPH BRADHAM, M.D.
GRADY H. HENDRIX, M.D.
T. FLEETWOOD HASSELL, M.D.
Charleston, S.C.

The decision to replace an incompetent aortic valve in a young person often requires very careful consideration. The risk of early and late complications from valve prostheses must be compared with the risk of further cardiac decompensation, deterioration, and sudden death secondary to coronary artery insufficiency and arrhythmias. Recently a young man presenting such a problem was evaluated.

Case History: M. L. is a 26 year old male who was in good health until early February, 1970, when he was evaluated for complaints of generalized weakness, dyspnea on exertion, and left anterior chest pain radiating to the left shoulder and arm. Examination revealed a loud diastolic murmur heard best just to the left of the sternum. The blood pressure in both arms was 120/40 mm Hg. An ECG showed no diagnostic abnormality. A roentgenogram of the chest was suggestive of left ventricular hypertrophy. Other laboratory studies were not remarkable. He was discharged on March 2, 1970, to await cardiac catheterization; however, readmission was necessary three weeks later because of left anterior chest pain which radiated to the left arm. A chest x-ray film and ECG showed no change when compared to the initial studies.

Right and left cardiac catherization, including a left ventriculogram and aortic root aortogram, was done April 3, 1970. The pulmonary capillary pressure was 14 mm Hg., the pulmonary artery pressure was 40/15 mm Hg. with a mean of 25, and the left ventricular end-diastolic pressure was 16 mm Hg. There was no evidence of intracardiac shunting, nor any pressure gradient across the mitral or aortic valves. Contractions of the left ventricle were slightly diminished. Function of the mitral valve was normal. Contrast material injected into the aortic root demonstrated marked regurgitation across the valve (Illustration). The proximal coronary arteries filled well and were normal. Marked thickening of the left ventricular wall was noted.



Aortic root injection demonstrating gross regurgitation of the contrast material across the incompetent aortic valve into the left ventricle. A0= Aorta, LV=left ventricle, CATH=Catheter, RCA=right coronary artery, LCA= left coronary artery.

Discussion

Marked aortic valve incompetency was obvious but the nature of the disease of the valve is not apparent. No calcification could be seen in the leaflets or annulus and there was no history to suggest previous rheumatic fever. Cardiac decompensation

was suggested by the elevated left ventricular end diastolic pressure. For this, he was treated with digitalis. This has allowed him to tolerate the decompensation and continue to work.

A major difficulty in this case, however, is the evaluation of the chest pain and whether it is related to insufficient coronary perfusion secondary to aortic insufficiency, or to some unrelated cause. Angina pectoris, secondary to aortic insufficiency would carry a grave prognosis, for it is not unusual for this to be associated with sudden death. Such a situation would dictate replacement of the aortic valve with a prosthesis without undue delay. On the other hand, aortic valve replacement is a major open heart surgical procedure and must be timed to offer maximum benefit to the patient. Early and late complications of valve prostheses cannot be discounted. Thromboembolic phenomenon, infection, disruption of suture lines, and mechanical failure still exist although lessened in frequency.

This patient's chest pain is not typical of angina. Cine-angiography demonstrated the proximal segments of the coronary arteries to be free of disease. Therefore, we have elected to follow this young man carefully with frequent visits in order to assess his chest pain. Further, should the pain become more characteristically anginal, or if he should have associated syncope or significant ventricular arrhythmias, valve replacement would be advised. Progression of ventricular hypertrophy, cardiac decompensation, cardiac dilation, or ECG demonstration of increasing coronary insufficiency would lend strong support to valve replacement.

Malignant Mixed Tumors of Salivary Gland Origin — R.M. Gerughty, DDS, PhD, H.H. Scofield, Capt. DC USN, F. M. Brown, MD, and G.R. Hennigar, MD, Cancer, 24:471, 486, 1969.

An analysis of 134 salivary gland tumors, originally diagnosed as malignant mixed tumor at both the armed Forces Institute of Pathology and the Medical University of South Carolina, was performed. Each case was analyzed and reclassified by one author (RMG) and it was found that only 25 of the 134 cases contained the specific histopathologic criteria necessary for the diagnosis of malignant mixed tumor, a diagnostic accuracy of only 19%. Follow-up data was obtained and the clinical behavior, therapy and prognosis were correlated with the histopathology. The results of our study showed that the malignant mixed tumor occurred at a median age of 38 years, much earlier than reported previously; involved primarily the parotid gland; appeared more frequently in males; and indicated that pain and fixation could not be correlated with malignancy. Histologically proven metastases were observed in 71% of these cases and specific histopathologic features could be correlated with eventual metastases. Although the pathogenesis of the malignant mixed tumor remains undertermined, the results of this study indicate that this neoplasm is malignant from the onset (64% presented as primary malignant mixed tumor) and does not develop from malignant transformation of a preexisting "benign" mixed tumor. R.M.G.

X-RAY FILMS OF THE MONTH

S. E. PUCKETTE, Jr., M. D.
Charleston County Hospital





This intravenous pyelogram and barium enema were performed during the work-up of a fifty-nine year old, moderately obese, alcoholic colored male. The patient had complained of increasing epigastric pain associated with nausea and vomiting and was moderately tender in the epigastrium. His physical examination and review of systems was otherwise unremarkable. His admitting complaints subsided on a bland diet.

****

The patient was subsequently explored and the pelvic viscera were found to be encased in a large mass of fatty tissue. The specific name for this entity is pelvic lipomatosis. It is an overgrowth of normal fatty tissue in the pelvis so far seen only in males. The characteristic radiographic appearance is displacement of the urinary bladder upwards in the midline with its lumen assuming a pear or gourd shaped appearance. The recto-sigmoid colon is straightened and rises vertically from the lesser pelvis. The colon may be somewhat constricted but without evidence of ulceration of the mucosal pattern. In some cases, there is an increase in the radiolucency of the soft tissues to indicate the lipoid content of the mass.

The patients are either asymptomatic or have only minimal complaints relative to the lipomatosis. Biopsies reveal normal fat or normal fat with chronic inflammatory changes. The course seems entirely benign. Experience so far indicates surgical intervention to be indicated only in those cases in which there is marked ureteral obstruction and secondary hydronephrosis or in cases in which the diagnosis cannot be made without an exploratory procedure. In none of the reported cases have the surgeons successfully removed enough fat to alter the position of the viscera.

Reference: Fogg, L. B. and Smyth, J. W. Pelvic Lipomatosis: A condition simulating pelvic neoplasm. Radiology 90:558-564 March 1968.

President's Page



The Annual Meeting of the South Carolina Medical Association is the highlight of the medical year. This is the culmination of a year of hard work for the officers, committees, and the executive staff of the society. Many friends and families join in good fun and fellowship for the only time during the year. This year exemplified all these things -- even the elements cooperated, affording the beautiful weather on the strand.

Dr. William Perry leaves behind him a great record of performance. He and his family are complimented by the grace and dignity bestowed on the presidential office.

Dr. Perry spelled out ten points of action as guides to Council and the society and earnest efforts will be made to implement these ideals.

The Scientific Program, presented by Dr. Bonner and his committee, was excellent and provocative. Council will look into better facilities for presenting the Scientific Programs in the future.

The House of Delegates, working with excellent reference committees, brought the business of the session into sharp focus and wise conclusions. The splitting of the business sessions, allowing time for the reference committees to deliberate and formulate their reports, added real substance to the final decisions by the House of Delegates. It is apparent on reviewing the By-laws of the society that split business sessions will be proper only on revision of one Article of the document.

The Annual Meeting of the Corporation of Blue Shield should follow the deliberation of the reference committee. Resolutions addressed to Blue Shield should be presented to the House of Delegates for study by the appropriate reference committee of the House.

Council, under the able leadership of Dr. Harold Hope, has done yeoman's duty with many hours having been spent in travel and deliberation to steer the ship of medicine on a steady course.

The Woman's Auxiliary is mentioned last, but, in efficiency and excellence of performance holds first place. Their program, under Mrs. Davis Moise and her officers, has been most productive. They are medicine's number one asset in intellect and loveliness.

Ben N. Miller, M.D.,
President

THE PARENT
Robert E. Quinn, M.D.

I have lifted, helpless,
Upon my outstretched hands
Three score years and more
Of things to come.

I have lifted, careless,
Its golden hair in strands,
Let, laughing, skyward soar
My future's sum.

Editorials

Chiropractic Creeps Up

Make no mistake about the ambitions of the chiropractor. He is on the make and working hard to obtain official recognition. Already he is under consideration for inclusion among those to furnish services to Medicare. Apparently the only real deterrent to recognition is the increase in cost to the program. And all this is in spite of the Federal Government's own agency, HEW, the American Public Health Association and the National Council of Senior Citizens -- who all oppose the use of the chiropractor. Apparently the Congressional ear is wide open to the blandishments of these vociferous cultists.

Peer Review Committee

The following plan to establish a Peer Review Committee of the South Carolina Medical Association was drawn up by an Ad Hoc Committee of Council after consultation with various appropriate individuals. It was approved by Council and presented to the House of Delegates of the South Carolina Medical Association on May 13, 1970, where it was adopted by voice vote without dissent.

(1) A single Peer Review Committee shall be established by the South Carolina Medical Association to consider all cases referred to it relating to the appropriateness of professional services and/or fees rendered by a physician to a patient or group of patients, and any action by any third party referable to these services and fees.

(2) The Peer Review Committee shall be composed of ten members of the South Carolina Medical Association, one from each medical district and one elected at large. They shall be elected by the House of Delegates from nominees submitted by Council. Council shall submit two nominees for each position on the Peer Review Committee. Not more than one nominee may come from any one county. Council shall determine from each nominee his willingness to serve, prior to submission of his name to the House. The term of office shall be three years, and no member may serve more than two consecutive terms. The terms of the district representatives shall be staggered by having them coincide with the terms of the Councillors of their respective districts.

(3) The Peer Review Committee shall choose its own Chairman at its first meeting at or after the Annual Meeting of the South Carolina Medical Association each year. No member may serve as Chairman for more than two consecutive years.

(4) The Peer Review Committee, at its inception, shall meet once each month at a pre-arranged time and place. At the end of the first three months, it shall review its work-load and experience and shall report to Council its recommendations for frequency of meetings in the future. A simple majority of the members of the Committee shall constitute a quorum.

(5) Any vacancy on the Peer Review Committee shall be filled by an appointee of Council. At the next Annual Meeting of the House of Delegates, Council shall present to the House the name of this appointee together with one additional nominee, for election

to fill the remainder of any unexpired term.

(6) Requests for review cases will be accepted by the Committee from the following:
   (a) Any physician who is a member of the South Carolina Medical Association.
   (b) Any patient, either directly or indirectly through a person or persons properly authorized by him to represent his interests.
   (c) Any third party concerned with provision of, or payment for, medical care.

(7) After complete review of a case, the Peer Review Committee shall make an official recommendation to the parties concerned. Each party involved in any case shall be notified when the case is to be considered and shall have the right to submit any information, documentation or other material and to appear before the Committee. In any case in which after preliminary review of the case, the Committee determines that its recommendation will be unfavorable to the physician, the physician will be so notified and shall have the right to appear before the Committee before final decision and recommendation are made.

(8) Each of the original specialty societies in the State shall be invited to designate one member (with one alternate) as Consultant to the Peer Review Committee. The committee itself or any of the parties involved in a specific case may request that the appropriate Consultant give an opinion in writing on a case or appear at the Committee hearing at which the case is to be discussed.

(9) Committee Members and Consultants shall be remunerated for travel expenses at the rate of ten cents per mile and shall receive a per diem for each meeting attended. The Chairman shall receive fifty dollars ($50.00) a month to cover secreterial expenses, and shall be entitled to the use of a telephone credit card to cover telephone expenses.

(10) Any party involved in any case may appeal the decision and recommendation of the Peer Review Committee to the Mediation Committee of the South Carolina Medical Association.

(11) The South Carolina Medical Association shall take the necessary steps to secure legal protection and insurance coverage for the Association and for each Committee member and Consultant.

(12) At the conclusion of nine (9) months of operation, the Peer Review Committee shall report to Council its recommendations for the future operation of the Committee. Council shall then direct appropriate persons to prepare By-Laws to the Constitution of the South Carolina Medical Association necessary to establish the Peer Review Committee as a permanently designated Committee of the South Carolina Medical Association.

(13) Because of the limitations of time at this meeting to secure suitable nominees definitely willing and committed to serve on the Peer Review Committee, Council shall request from the House of Delegates authority to make temporary appointments of the members of the initial committee, with the stipulation that at the 1971 Annual Meeting of the South Carolina Medical Association, Council shall present two nominees for each position on the Committee, one of whom shall be the temporary

appointee. All terms of office shall be related to the terms of Councillors (Paragraph 2) as of 1970.

ABSTRACT OF MINUTES OF COUNCIL OF SCMA

MYRTLE BEACH, S.C. MAY 10-13, 1970

At the first session of council Dr. Hal Jameson, president of Blue Shield, introduced the thought that a Peer Review Committee on the state level was essential to the operation of Blue Shield. Mr. William Sandow of Blue Shield discussed the matter and also presented a proposal that the federal employees at the Charleston Naval Yard be furnished a list of the participating physicians in its area. He also introduced the matter of non-participating surgeons in Blue Shield. Council voted that the Peer Review Committee be established, and that oral surgeons be added to the Blue Shield program and that the list of participating members be furnished to the Charlestonal Navy Yard as requested.

Dr. Joseph Cain presented a resumé of Activities of the Insurance Committee which was to be presented to the House of Delegates. Council approved the plans which he outlined. Dr. Cain proposed that special intern-resident and special student membership be included in the insurance program. Council approved the latter and proposed that it be presented to the House of Delegates.

Dr. Pope, secretary, said that the had some difficulties finding proper recipients for 50-year-pins and asked for some assistance.

Although Council had previousl approved the motion that Association pay for the President's party, it was stated that Dr. Perry wished to pay himself. The motion was made that in lieu of paying for the party that the President's salary be raised to $2,500 a year, retroactive to include this year.

Council submitted three names from which one might be chosen for appointment by the governor for the State Board of Examiners for Nursing Home Administrators.

Council voted to renominate Dr. Howard Stokes as treasurer and selected a slate of names from which election would be made for the mediation committee. These were to be presented to the House. A motion was passed that members who had served a maximum number of years on a committee should be given a certificate of appreciation. Dr. R. G. Latimer was selected.

The slate of nominees for vacancies on the Blue Shield board of directors was prepared and was to be presented to the House. A motion was made concerning the limitation of service on the board of directors of Blue Shield to nine years.

In the afternoon Council received representatives from the Woman's Auxiliary and heard reports on the activities of that body.

Dr. Miller requested help for the Health Manpower Council in attempting to ascertain how many people are involved in health care. A motion that certain assistance be given in the way of stationery etc. was passed.

Dr. Julian Price discussed the Peer Review Committee requested by the State Department of Public Health and was appointed chairman of a committee to organize the Peer Review Committees on a district level. There was some discussion of the matter of correlating the Governor's districts and medical districts in respect to the activities of the Regional Medical Program. Drs. Hawk, Atwill, and Gilland were appointed to work on the formation of Peer Review Committees.

Council heard and approved a resolution from the Columbia Medical Society that executive offices of the Association be moved from Florence to Columbia and that the assistant executive officer of SCMA should have his office in Columbia. This was to be referred to the House of Delegates with an amendment by Dr. Atwill that the transfer to Columbia be accomplished not later than 1975.

On Monday Dr. Strother Pope was selected to replace Dr. Harrison Peeples on the Maternal Health Committee as a representative from Council.

A proposal from Dr. Hugh DuBose, acting chairman of the Committee on Medical Services, recommending that the committee be terminated received some discussion and the opinion that the activities of the committee be curtailed but not abandoned.

On Tuesday the officers of the Woman's Auxiliary appeared before Council and asked the Associations wishes on the matter of the auxiliary becoming a member of the Health Manpower Council. A motion was passed that the auxiliary apply for membership and pledge dues of $100 for the time being.

Dr. Robert Solomon presented the report of the Mediation Committee, stating that the committee had considered 11 cases during the past year, and recommended that Council set up a committee to take care of controversial fees and services.

On Wednesday Dr. Gilland reported on the activities of the Drug Committee, citing some few flagrant abuses.

It was decided that Dr. Cyril O. Spann be nominated to replace Dr. Baker on the Hospital Advisory Commission.

Dr. Tucker Watson gave a report on the special committee studying reorganization of SCRMP. There was a discussion of reassignment of certain members of the district committees.

Council received a report from Dr. Hawk on the Ad Hoc Committee on Peer Review, in which various arrangements were discussed before presentation to the House of Delegates. Because of the limitations of time Council was to request from the House of Delegates authority to make temporary appointments of the members of the initial committee.

At the final meeting on Wednesday afternoon, Dr. Hope was elected to succeed himself as Chairman of Council. Dr. Atwill was re-elected vice chairman. Dr. Halsted Stone, the new member, was elected clerk of council. Dr. Miller was named to a committee appointed to look into a different meeting place.

Council moved that Dr. Waring hold a temporary title as editor-in-chief and be considered a member of Council for the time being unless he preferred to have Dr. R. Buckland Thomas, his successor, appear in his place.

Abstracted from the minutes taken by Dr. Strother Pope, M.D., secretary.

The Journal of the South Carolina Medical Association

50 YEARS AGO

July 1920

Dr. J. W. Jervey of Greenville published a paper on "Folliculitis vs. Trachoma." The subject arose apparently because of the fact that the State Board of Health had set up clinics for the treatment of trachoma in Newberry County. The dissertation on autointoxication carried on into this issue.

QUIDNUNC

With all the present day concern about the horrors of worms in South Carolina, it is interesting to read what an able physician had to say about these creatures nearly 200 years ago.

Of Worms in Children

All weakly people may be liable to worms, in particular those of the round sort; but they are so common to young subjects, that from one to twelve or fourteen years of age, scarcely one person is free of them. Sometimes these reptiles are bred in such numbers, that they presently devour whatever is eaten; so that the patients appear as starvelings, notwithstanding the voracious appetite they have, which can only be satisfied for a small time by the most plentiful meals. Various means have been proposed for destroying worms; but the best disappointment us at times, and on other occasions, those creatures will come away as it were of their own accord; ot this might happen, after the person had taken some insignificant thing or other, which thenceforward acquires the character of a vermifuge. Whatever strengthens the stomach and intestines, so as to enable them to perform their offices duly, will either prevent or expel worms, and therefore bitters of most kinds are proper for this purpose.

by Lionel Chalmers, M.D.
1776

"Avoid marrying, if possible, a woman of an hysterical temperament. A few tears may be very interesting during that treacle period called the honeymoon; but, in after life, there is no misery for a man greater than to be united to a woman of delicate fibre and weak digestion, who upon all and no occasions throws herself into that incurable and misery-causing malady — a fit of hysterics."

from The Science of A New Life
by John Cowan, M.D. 1873

PRESIDENT'S ADDRESS

William L. Perry, M.D.
to the
SOUTH CAROLINA MEDICAL ASSOCIATION
May 11, 1970

A year ago, when you all installed me as President of the South Carolina Medical Association, I vowed to try my utmost to give our Association --- and our entire profession --- the best possible service and the best leadership I could muster.

I drew strength from the example of all the more distinguished physicians which had preceeded me as your President. Just as each of them had done, I undertook to serve four masters.

I have rendered unto Caesar that which --- in ever larger measure --- is demanded by Caesar from each of us. I have rendered unto God, joyously, my ever-growing thankfulness and appreciation for His aid and His blessings which are always manifest in the successful struggles of our healing art and science against disease. I have also rendered my full capacity of energy and skill, upon demand, to my patients, whose demands are seemingly endless. Each of you, my colleagues, has given and endured in the same way --- this past year and always. Lastly, but in no less measure, I have done my best to serve this Association with all my wisdom and with all the wisdom that I could borrow from our Council, from the elder statesmen of our profession, and from the leadership of our many local societies.

It is taught in philosophy that a wise man gains foresight through contemplation. There has been too little time for that in this year of my Presidency of our Association. Never have we been called upon to make so many new efforts, to meet so many new demands, and to fill so many new needs arising from new forces in government and in public opinion.

My desire has been to get us moving toward a stronger South Carolina Medical Association that, in a rapidly changing world, will help us individually and collectively; to better serve ourselves and our patients, and to better refute the whining and carping of our detractors. Now, at the end of my term in this office, I realize that I haven't got the job done as well as I wish. But I am greatly encouraged by all that many of you have done, in the past year, to help.

It is also taught that those who don't remember the past are condemned to live it over again. Therefore, let us try to remember.

We cannot here construct a diary of the past year. But as I look back over it, I see exactly 10 lessons we can learn from it. Briefly, now, I'll read those lessons - as recommendations to this responsible House of Delegates from your retiring President. In this last attempt to serve you as I must, and to justify the honor you have done me by permitting me to be your President, I will condense my observations of the past year, in little more than 10 minutes, into 10 specific suggestions for strengthening our statewide association.

First, --- because you have won recognition of the value of your Association's advice in the important forums of State Government --- I recommend that you extend yourselves further in that direction, as a public service.

The State, and the Medical Association were drawn closer together in this past year by our participation in both legislative and executive councils in Columbia. I was a member of the committee established by joint resolution of the House and the Senate that, for many months, studied the present and future impact of Medicaid in South Carolina. I was also appointed to the Governor's Task Force on Medicaid, headed by Dr. Archie Ellis, the Director-designate of the Department of Public Welfare. I hope this trend continues with

our future officers of S.C.M.A., and our successive state administrations.

My second recommendation is closely akin to the first. I believe we should set a precedent now in the succession of membership on the Blue Chip Medical Committee that has been established to weed out abuses in Medicare and Medicaid for the Governor.

When the Governor asked for this committee of physicians, the Council of our Association decided that your President should appoint it. The four most recent past presidents and the President-Elect were appointed. As our President-Elect leaves that committee upon his installation as President of the S.C.M.A., I would like to see him routinely succeeded by our new President-Elect.

This committee has functioned in an excellent manner, to the credit of our profession and the benefit of our State. The Governor has expressed his pleasure and appreciation for the contributions of this committee and thereby this Association. When other vacancies occur on this Blue Chip committee for any reason, I think they should be filled by appointment by the President of our Association then in office. A request has been made from the Department of Welfare, The Industrial Commission and from Blue Shield for peer review committees. I think it would be well if we could co-ordinate these objectives under one committee for each of the 10 Economic Development Districts. Thus they would handle all needs in the district and refer what had to be referred to the Blue Chip Committee alluded to above.

My third suggestion is that we change our image --- and shed our reputation of being against all new State legislation in the health care field. I have discussed this with the Chairman of our Legislative Committee, who, with the other members has earned our respect for a job well done this year. He concurs with my suggestion --- and has given me permission to say so. I think we should establish a standing committee of Council, or a bigger and stronger Legislative Committee, to review all legislation whenever it is proposed. Through this committee, we should take a stance of active support for the legislation we can live with. Our position will be stronger --- and our influence greater --- if we act affirmatively instead of reacting negatively. I believe that, when we are in this new position, we will be consulted before new health care legislation is proposed.

Fourthly, I recommend individual political action by each of us. Our support of AMPAC and our State Medical Political Action Committee is good and valuable. On the other hand, I doubt that it is yet effective for us to place the disposition of all our political contributions into the hands of our State-PAC. Because the Republican Party is so heavily outnumbered here in South Carolina, our money dispensed at the state level has little chance of making an important impact on us.

Perhaps it would be better to let each county society decide on the use of some of our political contributions. Or, we could put all our support behind one candidate in an effort to make him the biggest winner, or, each member could make his individual contribution to the candidate of his choice.

I believe that each of us, beside contributing to our combined political funds at national, state or county levels, should also give $50 or $100 personally to a candidate of our personal choice. Henceforth, win or lose, that candidate will always listen to the viewpoint of the physician-contributor.

In these several ways, we will send to Columbia more legislators who will be more inclined to listen to doctors when legislation that affects us is proposed.

It is my duty, as I see it, to advise you now that, however distasteful it may be to some among us, we must all face the facts. In the future of private or public medical practice, politics is as real as pharmacology. We need to direct it along the lines of best patient care.

As the best way to establish the best lobbyist our profession could have in Columbia, I recommend that we set up a *medical aid station* in the Capitol, and staff it with a doctor whenever the legislature is in session, the mechanics of which would have to be worked out. The medical need

for our services there is as great as the opportunity to present our views.

My fifth recommendation is for a stronger role to be played by this association --- and by local medical societies --- in the areawide comprehensive health planning activities. This past year has been the most busy period in planning since the Federal-State-Regional-Areawide health planning projects were started. Millions of dollars have been spent on these programs since 1967, and a variety of projects has raised an equal variety of potential effects on medical practice. But the planners are still groping. They need us, and we need to lead them in the right direction for best patient care. We must be willing to get into these programs and work with them. A committee of our Council is studying the possibilities of moving our Association into closer alignment with the areawide planning agencies. Whatever the recommendations of Council may be, I urge you to act on them, to support them, as soon as they are made.

We should not permit comprehensive health planning to drift away from us. Neither should we take divergent or conflicting positions on it.

My sixth observation is that we could perhaps be more effective on the national scene if we brought Council and our AMA delegates closer together. It is extremely important that close liaison be maintained between the Council and our AMA delegates. It is imperative that lines of communication be kept open immediately prior to and during the AMA meetings. It might be well to consider making a change in the time our delegates are elected so that they would not be placed in the position of "lame duck" delegates.

Seventh, I have observed the possibility that our Association could be strengthened, and our membership better served in their dealings with health insurance carriers, if we bolstered our Mediation Committee. Given more responsibility and authority --- in matters concerning fees and utilization --- along with capacity for more and faster action, our Mediation Committee could effectively guide insurers and physicians both into better understandings that would dispel the occasional adversary attitudes we all regret.

Eighth, I recommend that those of us in the older generations of our profession accept the fact that youth must be served. New, younger doctors are coming along and they will have to be the strength of the South Carolina Medical Association in the years ahead. They want to be involved now, and we should get them involved now.

I believe that members of the Student American Medical Association --- SAMA --- should be invited to sit with the House of Delegates, without a voting franchise. They should be asked to express their views before our Reference Committees.

When they become interns and residents, we should make them members of S.C.M.A., without charging them dues. In that way, they will be better prepared to take an active part in the work of organized medicine, when they go into practice.

Ninth, I have also observed that among the state medical associations in our Southeastern region, only South Carolina and Alabama do not have an elected Speaker of the House of Delegates. Therefore, I suggest that we strengthen our Association by electing a speaker and a vice-speaker of our House of Delegates --- and by electing them for three-year terms. It might be well to make them ex-officio members of Council without vote. That way, the affairs of the House would get better management and our leadership would bridge the annual switch of officers of the Association. It is also recommended that we follow the AMA House of Delegates in adopting the Sturgis Code of Parliamentary Procedure in place of Roberts' Rules of Order.

Tenth, and finally, I have recognized that the demands upon our profession --- in planning, in the Regional Medical Program, in many socio-economic fields --- are placing additional workloads on the staff of our Association.

Our Executive Director, Jack Meadors, and Mrs. Gaymon are to be commended for all that they have accomplished. We cannot, however, burden them alone with



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Many people lose interest in food as they grow older. Some of them are fussy eaters—with only a few favorite foods. Others become indifferent to foods—because planning and preparing meals becomes a chore. Here Campbell's Soups can help —for these four very good reasons:

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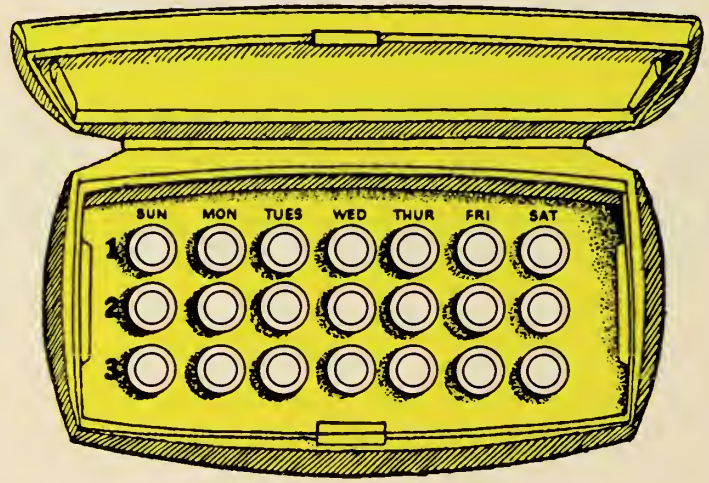
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Demulen—the one oral contraceptive that provides this new combination—offers • A full measure of confidence: Unsurpassed contraceptive effectiveness, and the low estrogen content—50 mcg.—is especially significant today • A full measure of comfort: A low incidence of breakthrough bleeding and other side effects.

Demulen continues the Searle tradition of unmatched convenience. • Sunday starting, cycle after cycle: Three weeks on, one week off. There is no simpler pill-taking schedule. • A package that helps keep her on schedule: The Demulen Compack® tablet dispenser is patient-proof. Day and week of cycle are clearly designated for each tablet.

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ctions—Demulen acts to prevent ovulation by inhibiting the output of gona- c ropins from the pituitary gland. Demulen depresses the output of both the f licle-stimulating hormone (FSH) and the luteinizing hormone (LH).

pecial note: Oral contraceptives have been marketed in the United States ce 1960. Reported pregnancy rates vary from product to product. The effec- eness of the sequential products appears to be somewhat lower than that of combination products. Both types provide almost completely effective con- ception.

n increased risk of thromboembolic disease associated with the use of hor- nal contraceptives has now been shown in studies conducted in both Great Brain and the United States. Other risks, such as those of elevated blood pres- e, liver disease and reduced tolerance to carbohydrates, have not been quan- ted with precision.

ong-term administration of both natural and synthetic estrogens in subpri- te animal species in multiples of the human dose increases the frequency of ne animal carcinomas. These data cannot be transposed directly to man. The ssible carcinogenicity due to the estrogens can be neither affirmed nor refuted his time. Close clinical surveillance of all women taking oral contraceptives st be continued.

ndication—Demulen is indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, ebral apoplexy or a past history of these conditions, markedly impaired liver ction, known or suspected carcinoma of the breast, known or suspected rogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of ombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary bolism and retinal thrombosis). Should any of these occur or be suspected drug should be discontinued immediately.

etrospective studies of morbidity and mortality in Great Britain and studies morbidity in the United States have shown a statistically significant associa- n between thrombophlebitis, pulmonary embolism, and cerebral thrombosis al embolism and the use of oral contraceptives. There have been three princi- studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The imate of the relative risk of thromboembolism in the study by Vessey and ll[3] was about sevenfold, while Sartwell and associates[4] in the United States nd a relative risk of 4.4, meaning that the users are several times as likely to dergo thromboembolic disease without evident cause as nonusers. The erican study also indicated that the risk did not persist after discontinuation administration, and that it was not enhanced by long-continued administra- n. The American study was not designed to evaluate a difference between ducts. However, the study suggested that there might be an increased risk of omboembolic disease in users of sequential products. This risk cannot be ntitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or mplete loss of vision, or if there is a sudden onset of proptosis, diplopia or graine. If examination reveals papilledema or retinal vascular lesions medica- n should be withdrawn.

Since the safety of Demulen in pregnancy has not been demonstrated, it is ommended that for any patient who has missed two consecutive periods gnancy should be ruled out before continuing the contraceptive regimen. If patient has not adhered to the prescribed schedule the possibility of preg- ncy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been iden- ed in the milk of mothers receiving these drugs. The long-range effect to the rsing infant cannot be determined at this time.

recautions—The pretreatment and periodic physical examinations should in- de special reference to the breasts and pelvic organs, including a Papanico- u smear, since estrogens have been known to produce tumors, some of them lignant, in five species of subprimate animals. Endocrine and possibly liver ction tests may be affected by treatment with Demulen. Therefore, if such ts are abnormal in a patient taking Demulen, it is recommended that they repeated after the drug has been withdrawn for two months. Under the in- ence of progestogen-estrogen preparations preexisting uterine fibromyomas y increase in size. Because these agents may cause some degree of fluid re- tention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Demulen may mask the onset of the climacteric. The pathologist should be advised of Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

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OA1

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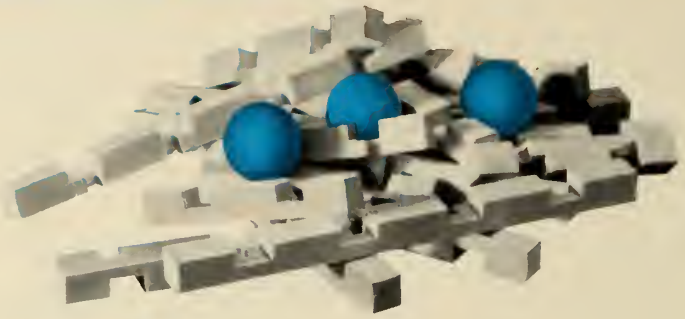
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Each tablet contains 1 mg. ethynodiol diacetate / 50 mcg. ethinyl estradiol

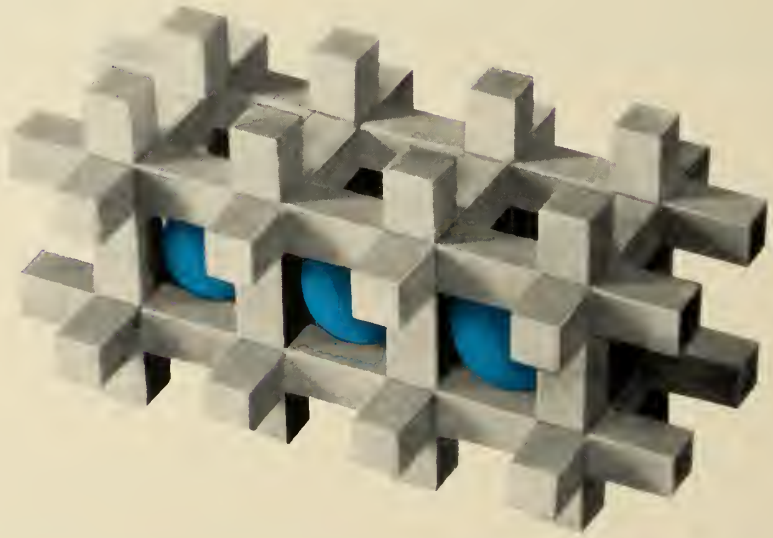
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Does not create problems...



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Urised is a problem solver; it brings patient comfort with first dose pain relief. Unlike newer antibiotics or sulfonamides, Urised does not create problems. It has a time tested record of minimal side effects. For over 50 years, Urised has created physician and patient confidence by providing effective therapy when needed.

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Each blue-coated tablet contains these active ingredients:

Atropine Sulfate	0.03 mg.	Methylene Blue	5.4 mg.
Hyoscyamine	0.03 mg.	Phenyl Salicylate	18.1 mg.
Methenamine	40.3 mg.	Benzoic Acid	4.5 mg.

Contraindications: Glaucoma, urinary bladder neck or pyloric obstruction, duodenal obstruction and cardiospasm. Hypersensitivity to any of the ingredients.

Warnings: Do not exceed recommended dosages.

Precautions: Administer with caution to persons with known idiosyncrasy to atropine and cardiac disease. While under this therapy the urine is blue; patients should be so advised to allay apprehension.

Adverse Reactions: Neither irritation nor untoward reactions have been reported; however, if pronounced dryness of the mouth, flushing, or difficulty in initiating micturition occurs, decrease dosage. If rapid pulse, dizziness or blurring of vision occurs, discontinue use immediately. Acute urinary retention may be precipitated in prostatic hypertrophy.

Dosage and Administration: Adults: Two tablets, orally, four times per day, followed by liberal fluid intake. Older children reduce dosage in proportion to age and weight.

How Supplied: Bottles of 100, 500 and 1,000 tablets.

References: (1) Sands, R.X.: New York St. J. Med. 61:2598-2602, 1961: (2) Renner, M.J., et al: Hosp. Topics 39:71-73, 1961: (3) Haas, Jr., J., and Kay L.L.: Southwest. Med. 42:30-32, 1961 (4) Marshall, W.: Clin. Med. 7:499-502, 1960: (5) Strauss, B.: Clin. Med. 4:307-310, 1957.

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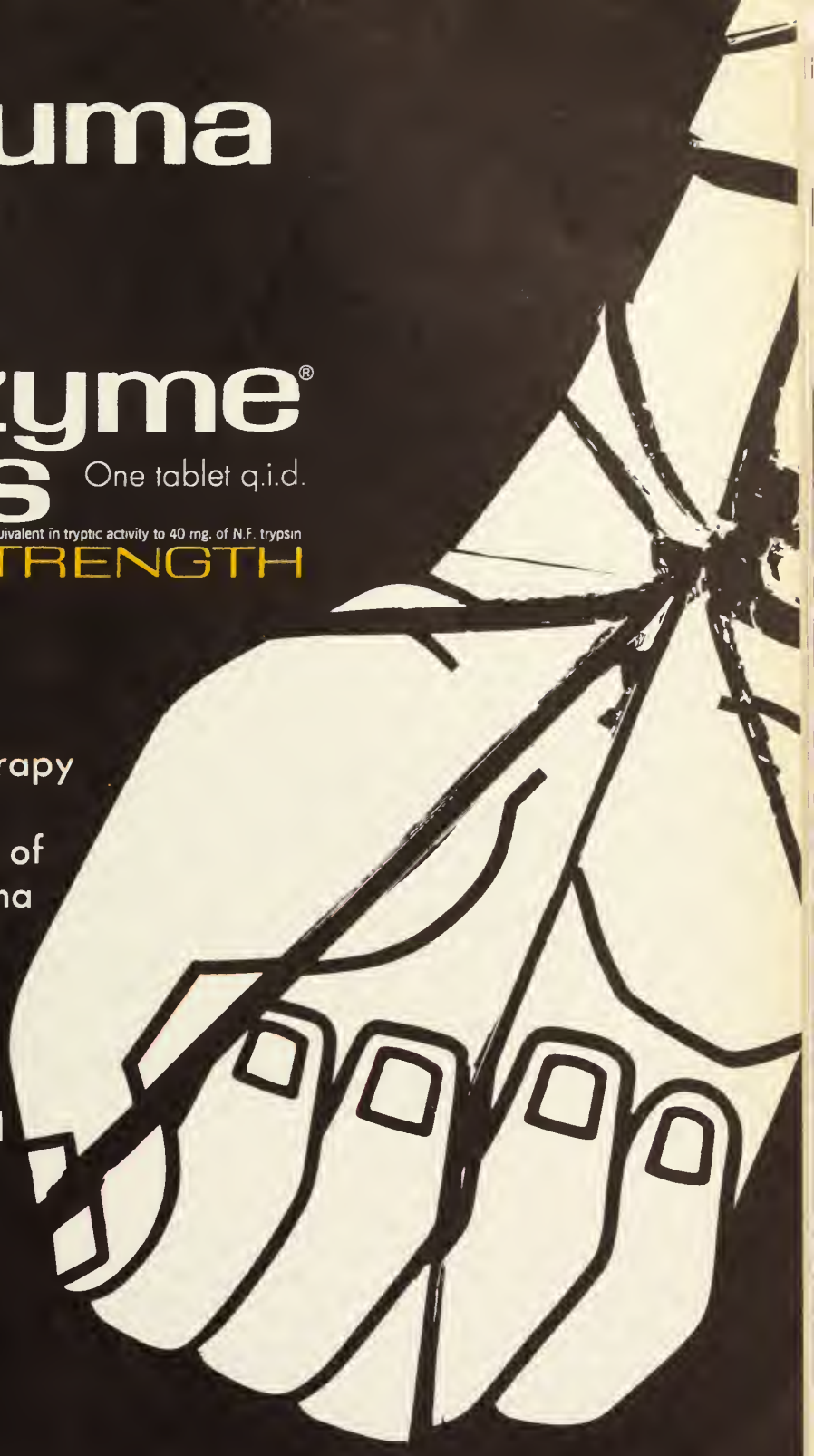
in trauma

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One tablet q.i.d.

Trypsin: 100,000 N.F. Units, Chymotrypsin: 8,000 N.F. Units.; equivalent in tryptic activity to 40 mg. of N.F. trypsin

DOUBLE STRENGTH



Proteolytic enzyme therapy specifically indicated for the rapid resolution of inflammation and edema as adjunctive therapy in accidental and surgical trauma.

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A FULL DAY'S DOSAGE

Description: ORENZYME BITABS offers the therapeutic effects of trypsin in an oral form as adjunctive therapy for the rapid resolution of inflammation and edema. ORENZYME BITABS is convenient to use, promotes patient cooperation and is ideally suited for maintenance therapy following parenteral trypsin.

Indications: When used as adjunctive therapy for the rapid resolution of inflammation and edema, good results have been obtained in:

- ☐ Accidental Trauma
- ☐ Postoperative Tissue Reactions.

Other conventional measures of treatment should be used as indicated. In infection, appropriate anti-infective therapy should be given.

Contraindications: ORENZYME BITABS should not be given to patients with a known sensitivity to trypsin or chymotrypsin.

Precautions: It should be used with caution in patients with abnormality of the blood clotting mechanism such as hemophilia, or with severe hepatic or renal disease. Safe use in pregnancy has not been established.

Adverse Reactions: Adverse reactions with ORENZYME have been reported infrequently. Reports include allergic manifestations (rash, urticaria, itching), gastrointestinal upset and increased speed of dissolution of animal-origin surgical sutures. There have been isolated reports of anaphylactic shock, albuminuria and hematuria. Increased tendency to bleed has also been reported but, in controlled studies, it has been seen with equal incidence in placebo-treated groups. (See Precautions.) It is recommended that if side effects occur medication be discontinued.

Dosage: One tablet q.i.d.

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DIVISION OF RICHARDSON-MERRELL INC.
PHILADELPHIA, PENNSYLVANIA 19144

TRADEMARK: BITABS U.S. PATENT NO. 3,004,693 4/69 0-621A



Treating vaginitis is as easy as AVC

Trichomonads...Monilia...Bacteria

You can depend on AVC—the comprehensive therapy that acts against all three major vaginal pathogens.

Monilia emerging as a major therapeutic problem—
recent studies report increased incidence, attributed in part to the use of oral contraceptives,[1-4] broad-spectrum antibiotics[5-9] and prolonged use of corticosteroids.[7]
recent evidence establishes high rate of microbiological and clinical cure with AVC.[9-11]

Comprehensive—Effective

The published record and more than two decades of clinical experience clearly establish the therapeutic value of AVC in vaginitis/cervicitis and vaginal surgery.

Easy as AVC

Contraindications: Known sensitivity to sulfanamides.
Precautions/Adverse Reactions: The usual precoutians far tapical and systemic sulfonomides should be observed because of the passibility of obsorption. Burning, increosed lacol discomfort, skin rash, urticaria ar ather monifestatians of sulfonamide toxicity ore reosans ta discontinue treotment.
Dosage: One opplicotorful or ane suppository intravoginolly ance ar twice daily.
Supplied: Creom—Faur-ounce tube with or without applicotar. Suppositories—Box of 12 with applicator.

References: 1. Gordner, H. L.: J. Miss. M.A. 8:529, 1967. 2. Porter, P. S., and Lyle, J. S.: Arch. Dermot. 93:402, 1966. 3. Walsh, H.; Hildebrandt, R. J., and Prystawsky, H.: Am. J. Obst. & Gynec. 93:904, 1965. 4. Voginitis and the Pill: J.A.M.A. 196:731, 1966. 5. Guerriera, W. F.: South. M.J. 56:390, 1963. 6. Seelig, M. S.: Am. J. Med. 40:887, 1966. 7. Ta-doy's Drugs, New York, Grune & Stratton, Inc., 1965, p. 316. 8. Groy, L. A., and Barnes, M. L.: Am. J. Obst. & Gynec. 92:125, 1965. 9. Salerno, L. J.; Ortiz, G., and Turkel, V.: Voginitis: A Diagnostic and Therapeutic Approoch, Scientific Exhibit, presented at the 115th Annual A.M.A. Canventian, Chicago, Illinois, June 1966. 10. Walsh, J. C.; Sheffery, J. B., and Wilson, T. A.: Med. Ann. D.C. 37:358, 1968. 11. Nugent, F. B., and Myers, J. E.: Pennsylvonio Med. 69:44, 1966.

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AVC CREAM (aminacrine hydrachlaride 0.2%, sulfanilamide 15.0%, allantoin 2.0%)
SUPPOSITORIES (aminacrine hydrachlaride 0.014 Gm., sulfanilamide 1.05 Gm., allantoin 0.014 Gm.)

TRADEMARK: A V C AV-919A 7/69

all the duties at hand plus all that the future will bring. We have made provision for employment of an assistant director. I believe we should get that assistant on the job --- indeed, on many jobs --- as soon as possible. By that I mean as soon as we can find the right man.

In summary, I wish to offer my opinion that we have had a good year, and that the vistas opening before us now hold great promise of still better years for the South Carolina Medical Association. For this I offer my heartful thanks to the the Chairman and members of Council, to the past presidents of this association, to the leadership of our several local societies, and to our staff; all of whom have worked hard on our behalf. I am also deeply grateful to all of you, for having accorded me the privilege and singular honor of being your President.

As we prepare to invest our new President, I urge you to consider the 10 suggestions I have just made. Recapping, they are:

First - Continue the trend of cooperation with State Government.

Second - Put the new President-elect on our Blue Chip Medicaid Committee.

Third - Have a committee to select legislation we favor, and take a positive position in the General Assembly.

Fourth - Be politically active and give our county societies some control over use of Political Action funds.

Fifth - Get into Comprehensive Health Planning and guide it properly.

Sixth - Maintain close liaison between AMA delegates and the governing body.

Seventh - Strengthen our Mediation Committee

Eighth - Bring medical students, interns and residents into our meetings.

Ninth - Elect a speaker and a vice-speaker for this House.

Tenth - Put an assistant director on our Association staff.

Today is *not* too early to act!

I thank you.

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We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.

REPORT OF THE EXECUTIVE SECRETARY

M. L. MEADORS

Membership in the Association last year reached a total of 1714. Of this number, 1561 paid dues, there were 15 in the category of Junior Members, and 9 Service Members. One hundred and twenty-nine (129) were active members in good standing, but exempt from payment of dues under the By-Laws. This total represents a net increase of 59 over the previous year. During 1969 we actually acquired 85 new members. Seventeen (17) members died and 54 were dropped, principally for non-payment of dues.

The largest majority of our members also belong to the American Medical Association. Fourteen hundred twenty-six (1426) paid dues to AMA. There were 114 active members, but exempt from dues and 15 listed as Associate Members. The latter are our Junior Members, who, under the By-Laws of AMA, are exempt from payment of dues to that organization so long as they maintain that status. Accordingly, there were a total of 1555 of our members who are also members in good standing of AMA. This, we feel, is an excellent record for the Association, when it is considered that membership in AMA is entirely voluntray.

The record continues good for this year. Up to the present time, 1377 physicians have paid dues to the State Association and 1273 to AMA. It should be recalled that all AMA dues are collected through the State office. This nearly doubles the amount of money which is handled, over that which would be collected if only our State Association dues were involved. All but a very small percentage of the dues to both organizations are collected by the county secretaries and treasurers and remitted by them to the State office, where, in turn, we deduct the State's portion and remit and account to the AMA for the amount belonging to them.

In addition to these amounts, we received last year $4,350.00 in contributions to AMA-ERF.

Dues to SCALPEL (SOCPAC) also are included on the Association bills, and we received and remitted $5,000.00 to this organization from 250 members. This, we understand, does not represent the total membership in SCALPEL, since some of the physicians remit the dues directly to their Treasurer.

The work of the Administrative Office has continued as usual, with a steady increase. Accurate records of membership are maintained and membership cards mailed to each physician as his dues are received. We continue to maintain good liaison with AMA and assist the President of the Association in providing representation from South Carolina to the various AMA meetings, many of which are held. We frequently have occasion to contact various departments of the national organization for information to supply our members on request. We attended the annual and interim meetings of the House of Delegates of the American Medical Association, and this, as in the past, has enabled us to be cognizant of developments in the national organization and to have first-hand knowledge of the background of the development of AMA policy on various matters of interest to the profession.

The Business Manager of the *Journal* is located in our office and all of its business affairs, including the collection for advertising and payments of the printing and other bills are handled there. Receipts from advertising in the *Journal* increased last year to $31,405.35. The revenue from this source in 1968 had been $29,591.89. Most of our advertising continues to be published through the State Medical Journal Advertising Bureau, with its headquarters in Chicago closely connected with headquarters of AMA. We made a small profit on the *Journal* operation since the total expenses amounted to $29,138.00.

Records of all the investments are maintained in our office, along with actual custody of the securities in which the funds

are invested. These are sound investments, approved by the Investment Committee and Council, and are kept in the highest available interest producing accounts available for this type of investment.

During the past few months, we have made some valuable additions to our office equipment. We have a new small off-set press, which does the work that was formerly mimeographed and turns it out in a more attractive form. We have also acquired an automatic metal plate maker which is used for reproducing copies of practically anything. With this machine, we are able to make both paper plates for reproducing 100 or more copies and metal plates, as well, which are permanent and capable of reproduciing indefinitely. With the use of these two pieces of equipment, we will be able in the future to print our own letterheads and a number of other office supplies in the line of stationery.

A short *Newsletter* sent to you a few days ago with reference to the showing of the CBS Program here today was reproduced entirely in our office on our two machines.

We expect within the next few months to obtain an IBM Ball Typewriter with print type and then we will be able to prepare, reproduce and turn out the *Newsletter* in the same printed form, complete from our office, resulting in considerable savings in the expense of this item.

Since the last Annual Meeting, we have issued 10 *Newsletters*- one each month, with the exception of 2 months; and thru this medium, we believe, have kept the membership better informed.

The legislative record this year was very satisfactory, with one small exception. A Bill to change the organization of the Technical Advisory Radiation Control Council by adding to its membership one (1) chiropractor, nominated by the S. C. Chiropractic Association, was passed, despite strenous efforts to prevent it and a gallant fight made by Dr. Owens in the Senate. There was already one chiropractor on the Council, appointed as a member-at-large, whose term was about to expire. The chiropractors, obviously, wanted to keep him on the Council and to improve their status by having a provision included in the law for one of their nominees, along with the nominees of the S. C. Medical Association, State Dental Association and S. C. Radiological Society. We sent two (2) printed booklets to all the Senators describing the chiropractic cult and lack of qualifications, wrote letters to physicians in all the counties and we know that contracts were made with our Legislators. Despite these efforts, the Bill passed with only 4 votes in the Senate in opposition. It was comparatively unimportant and we are satisfied that this was the feeling of the Legislators.

The Abortion Bill, which had passed the Senate in 1968, was up for early consideration in the House of Representatives in January of this year. The opposition was strongly organized and there were dire threats of a long filibuster. Your Association took a positive stand and a letter over the signature of the President was addressed in early January to all members of both the House and the Senate supporting the Bill. We believe this was an important factor in the breakdown of the opposition and the passage of the Bill within a few days after the debate was begun.

The optometrists were strongly aggressive this year. They had introduced in February no less than 6 Bills, designed to add an optometrist to the Commission for the Blind, to the Executive Committee of the State Board of Health, to the State Advisory Committee for Comprehensive Health Planning and, otherwise, to increase the recognition given to them by statute and their participation in state programs for eye care. A hearing on all the Bills was held before the House Committee on Military, Public and Municipal Affairs. Our opposition was well organized, a large number of ophthalmologists were present and several of them made good presentations. As a result of this and some further special legislative representation provided by the South Carolina Society of Ophthalmology and Otolarnygology, all Bills remained in the Committee. The provisions of one, however, were bobtailed

to a Senate-passed Bill, adopted by the House and the amended version then adopted in the Senate. This, we felt at the time, was actually of no importance or significance, since we had no really valid defense to the Bill on its merits. As already indicated, the other 5 Bills died in committee.

Several other measures on which different segments of the profession had taken positions, but none of which was either strongly endorsed or opposed by the Association, were introduced and hearings held on some. None of these was adopted at the comparatively short session of the General Assembly.

Last year, the House of Delegates made provision for the employment of an Executive Assistant and Public Relations Representative. Although the change in the dues structure to provide for this did not become effective until January 1, 1970, we have been trying virtually for the past year, to locate a properly qualified person to recommend for this position. As early as the meeting of the House of Delegates of the American Medical Association in July, the word had spread, and we were contacted by two or three men employed in similar capacities in other states who were looking for better situations. Brief conversation developed the fact, however, that they were already receiving salaries in excess of what our Council had in mind for this position in South Carolina. Three or four written applications were received from men in other fields of work, none of whose qualifications or age brackets, in our opinion, fitted the description of the man we wish to recommend.

At the meeting of Council on October 22, 1969, we outlined to this body the sort of person who, we think, will fill the bill and for whom we are looking. We suggested a man around 30 or 35 years of age; preferably, a South Carolininan, who is familiar with the State, its citizens and our problems; and a lawyer, if possible. Council, apparently, concurred in these views. During last fall, we contacted others who we felt might be in position to make suggestions and asked for their assistance in looking for a man whom we might employ.

Since the beginning of the year and, particularly, following the whole-hearted favorable response to the raise in dues this year, our efforts have been increased. We contacted several young lawyers, both directly and indirectly. At least two of these would have been definitely interested provided they could be permitted to continue their practice of law, but not otherwise. While the Association has been agreeable to that arrangement so far as your present Executive Secretary is concerned, we did not feel justified in pursuing negotiations with a view to making similar recommendation in the case of a new man. We have about reached the conclusion that we will not be able to find an able young lawyer with every qualification we seek, who will be willing to devote his entire time to a job of this kind and give up the idea of a practice for less than Twenty Thousand ($20,000.00) Dollars a year, and possibly more. A young man just out of law school and not yet located, we may be able to get, but without any assurance that he would remain with us longer than it is necessary to accumulate sufficient capital to open his own law practice.

Several weeks ago, actually, at the time of our most concentrated effort in this direction, the suggestion was made in a letter to the President and Chairman of Council, with a copy to me, that the Association employ a straight lobbyist in Columbia for the legislative session with recognition of the fact that this would cost around Five Thousand ($5,000.00) Dollars. According to our information, this idea has attracted some support and, frankly, since it was made we have not made further direct contacts toward the employment of a general assistant on a permanent year-round basis. If the recommendation is made at this meeting, we do not know whether or not it will be approved. If it is approved, we do not know whether or not it will be your intention to have the lobbyist in addition to the assistant, and this decision would have definite bearing on the type of man we would want.

It would, of course, be simple to go out and hire an employee for Fifteen Thousand ($15,000.00) Dollars for some positions of

this general nature, but to find one with the background, college education, personal attractiveness, tact, judgment, good taste and other characteristics needed to represent a professional organization, like the South Carolina Medical Association, is not an easy task. I find that other State Associations have had similar difficulty, and to find one with these characteristics and qualifications for Fifteen Thousand ($15,000.00) Dollars or less in an inflated economy is an even more difficult proposition.

We will continue and renew our efforts following this meeting to find as early as possible the best man available to fill either or both of the positions, as the Council and House of Delegates may direct.

Complying with Council's direction last year for expanded activity by our office, we attended personally twelve county society meetings, meetings connected with the Regional Medical Program and with Comprehensive Health Planning, two conferences in Atlanta, an Institute of the American Association of Medical Society Executives.

We met, also, with 4 or 5 of the Standing Committees, 3 times with the Committee on Liaison with the Nursing Profession and twice with the Governor's Task Force on Medicaid and the DPW. We had a number of conferences with the President and other officials of the Association in Florence and elsewhere, conferred with Senator Frank Owens, personally and by telephone on numerous occasions on pending or proposed legislation. We conferred in Columbia with Mr. N. B. Heyward, Secretary of the Board of Medical Examiners, on the Amendments to the Medical Practice Act, and prepared a detailed comparative outline of this Bill and the existing statute for presentation to Council.

We arranged for, organized and participated in two full-scale hearings before Legislative Committees during the recent session and, of course, continued daily surveillance of the Bills in both the Senate and House of Representatives.

In all, it has been an unusually busy and, we believe, a productive year, We hope we have made reasonable progress in complying with the Association's directions for an expanded program.

It has been a privilege to be more closely associated with Dr. Hope, Chairman of Council, and the President, Dr. Perry. Our contacts with Dr. Pope, Secretary, and Dr. Waring, Editor of the Journal, have been most cordial and pleasant, and those with Dr. Stokes, Treasurer, as usual, indispensable. We express our sincere appreciation to these gentlemen and to the other members of Council, for their unfailing consideration, advice and cooperation, and to all members of the Association with whom we have direct contacts, for their courtesy and understanding.

I cannot conclude this report without expressing thanks to our entire administrative staff for their loyalty, efficiency and dedication, beyond the call of duty. It has been a somewhat difficult year, and these young ladies, without exception, have invariably cooperated with me to get the job done.

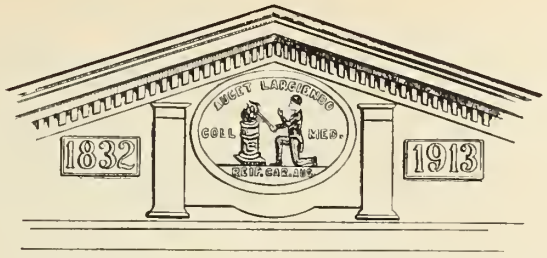


Dr. Paul W. Sanders, Jr., Dr. Paul W. Sanders III and Dr. Thomas A. Kirkland have announced their association for the practice of urology at 160 Rutledge Avenue, Charleston. Dr. E. Kenneth Aycock, state health officer, was elected first vice president of the Southern Branch, American Public Health Assn., at a recent meeting in Charleston. Dr. Leon Banov, retired Charleston County health officer, was presented the James A. Hayne Award by the South Carolina Public Health Assn. for his achievements during his 49 years as health officer. Dr. J. N. Lipscomb of Gaffney has been elected vice president of the Broad River TBRD Association. Named to the executive committtee was Dr. L. E. Brailsford of Spartanburg. Among the new directors are Dr. Brailsford, Dr. J. V. Jeffords of Spartanburg, Dr. James E. Colbert of York, and Dr. L. L. DuBose of Blacksburg. Mary Baldwin College's new science center is being named for the late Dr. Jesse Cleveland Pearce of Graniteville. Dr. Alton Brown, Rock Hill physician, has been named to the board of trustees of the Medical Benevolence Foundation of the Southern Presbyterian Church. Dr. J. F. McLaughlin of Denmark was recently promoted to lieutenant colonel in the 1182nd United States Reserve Transportation Terminal Unit, Charleston. Dr. William S. Hall, S. C. commissioner of mental health, recently presided over the opening session of the Psychiatric Hospital Section of the American Hospital Association at a meeting in Newport Beach, Calif. Dr. Alexander G. Donald, director of the William S. Hall Psychiatric Institute, delivered an address at the annual meeting of the American Psychiatric Association in San Francisco. Dr. David Murray McInnis, a native of Clio, and a graduate of the Medical University of S. C., has opened his office for the general practice of medicine in Bennettsville. Dr. Jorge Gomez, a native of Colombia, South America, has joined the staff of Barnwell County Hospital as surgeon. Dr. Robert E. Bell Jr. of Columbia has been elected to the American College of Psychiatrists.

Dr. Hal C. Anderson of Rock Hill and Dr. Billy S. Arant Jr. of Pageland have been elected to the American Academy of Pediatrics. Dr. Asbury H. Williams of Lake City and Dr. John N. Gaston Jr. of Chester have been elected to the American Academy of General Practice.

WANTED: Physician with interest in Mental Retardation to serve as Medical Director. Modern offices, liberal personnel policies. Must be licensed or eligible for licensure in South Carolina. Salary $18,000 to $22,000 depending upon qualifications. Write or apply to Dr. Edward A. Rondeau, Superintendent, Midlands Center, 8301 Farrow Road, Columbia, South Carolina, 29203. (formerly Pineland, A State Training School Hospital.)

WANTED: Physician with South Carolina license to join the staff of the Savannah River Plant in Aiken, South Carolina operated by the DuPont Company for the Atomic Energy Commission. Regular hours, good working conditions, excellent fringe benefits. Those interested should apply to Medical Superintendent, E. I. DuPont de Nemours & Co., Aiken,S.C.



Medical University of South Carolina

The Medical University of South Carolina has added seventeen members to the faculty of the College of Medicine.

Dr. William M. McCord, president of the Medical University, said that the appointments became effective July 1.

Appointments include: Dr. William H. Hartmann, Professor of Pathology; Dr. Robert L. Bennett, Clinical Professor of Physical Medicine; Dr. James H. Hardin, Assistant Professor of Anatomy; Dr. Joseph D. Balentine, Assistant Professor of Pathology; Dr. Wladimir Wertelecki, Assistant Professor of Pediatrics; Dr. Rajesh S. Mathur, Assistant Professor of Obstetrics and Gynecology; Dr. H. Stewart Powell, Assistant Professor of Pathology; Dr. Charles R. Vernon, Associate in Medicine; Dr. Robert C. Johnson, Associate in Microbiology (Genetics); Dr. Richard M. Baird, Clinical Associate in Surgery (Neurosurgery); Dr. Richard A. Wade, Instructor in Medicine (Preventive Medicine); Dr. Gordon E. Newlin, Instructor in Microbiology (Virology); Dr. Kathleen W. Hernandez, Clinical Instructor in Pediatrics; Harry H. F. Hutson, III, Technical Assistant in Ophthamology; William E. Ostrander, Assistant in Pathology; and Mary Z. Schumpert, Assistant in Pathology.

Dr. Hartmann is the Associate Pathologist at El Camino Hospital, Mountain View, California. He is a graduate of State University of New York, College of Medicine. He has served as Professor of Pathology at the University of Tennessee School of Medicine.

Dr. Bennett is Medical Director for the Warm Springs Foundation in Georgia, a post he's held since 1953. He received his medical degree from the University of Pittsburgh.

Dr. Hardin received his doctorate in Anatomy from the University of Tennessee Medical Units. He has been an Associate in Pathology at the Medical University.

Dr. Balentine, a 1963 graduate of the Medical University, is an Assistant Professor of Pathology and Director of Neuropathology at Emory University School of Medicine.

Dr. Wertelecki, a native of Poland, is Senior Surgeon, Public Health Service Commissioned Corps, National Cancer Institute, Bethesda, Maryland. He received his Doctor of Medicine degree from the University of Buenos Aires School of Medicine.

Dr. Mathur, born in India, received his doctorate in Chemistry from McGill University in Montreal, Canada. He is a research supervisor in the Department of Agricultural Chemistry at MacDonald College, Quebec, Canada.

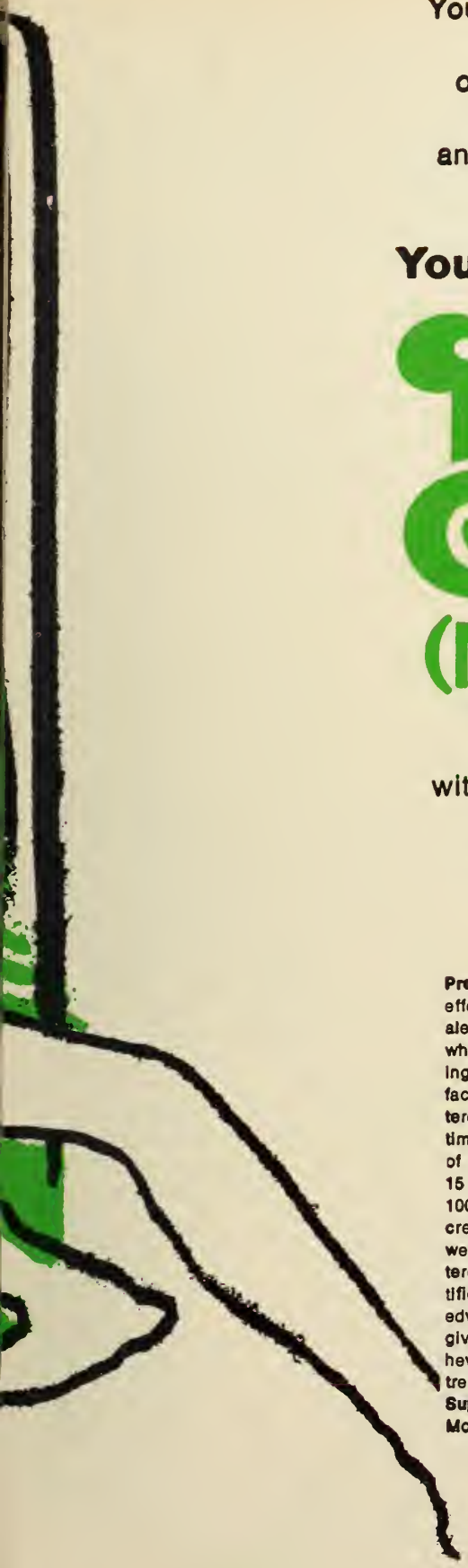
Dr. Powell is an instructor in Pathology and Parasitology in the School of Veterinary Medicine at the University of Georgia. He received his doctorate in Veterinary Medicine from the University of Georgia.

Dr. Vernon is a Research Fellow in Cardiology at the University of Florida Teaching Hospital in Gainesville, Florida. He received his Doctor of Medicine degree from Duke University Medical School, Durham, North Carolina.

Dr. Johnson received his doctorate in Microbiology from the University of Kansas where he is presently the Honors Project Counselor for microbial genetics.

Dr. Baird is a Commander in the United States Navy, stationed at the U. S. Naval Hospital in Charleston, where he is Chief of Neurosurgery. He is a graduate of Jefferson


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I don't feel
so good..."



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(MECLIZINE HCl)

Bonine protects most patients—young or old—against nausea and vomiting up to 24 hours with a single dose. Pleasant-tasting Bonine tablets are chewable. They can be taken anytime, anywhere, without water. In difficult cases, multiple daily doses may be necessary for maximum response.

Precautions: Although the incidence of drowsiness and atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. *Use in women of childbearing age:* In weighing potential benefits vs. risk in women of childbearing age, consider the fact that a review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum.

Supply: 25 mg. scored tablets.

More detailed professional information available on request.

Pfizer **LABORATORIES DIVISION**
New York, N.Y. 10017

Medical College in Philadelphia, Penn.

Dr. Wade, who is the Chief of the National Marine Water Quality Laboratory at Bears Bluff Field Section on Wadmalaw Island, received his doctorate in marine science from the University of Miami.

Dr. Newlin, who is on a Departmental Training Grant at the University of Kansas, received his doctorate in microbiology from the University of Kansas.

Dr. Hernandez received her Doctor of Medicine degree from Louisiana State University School of Medicine.

Mr. Hutson has been Director of the Contact Lens (Optical) Laboratory at the Medical University of South Carolina since 1967.

Mr. Ostrander received his Master of Science degree from the State University of Iowa. He is presently the supervisory microbiologist at the Charleston Veterans Administration Hospital.

Miss Schumpert received her Master of Science degree in biochemistry from Emory University and is presently the supervisory chemist at the Charleston Veterans Administration Hospital.

Two additional appointments involved two present members of the faculty. Dr. Richard H. Gadsden, Professor of Biochemistry was also named Professor of Clinical Pathology. Dr. Elmore G. Herbert, Assistant Professor of Chemistry was also named Assistant Professor of Biochemistry and Clinical Pathology. Both Dr. Gadsden and Dr. Herbert received their doctorates from the Medical College of South Carolina.

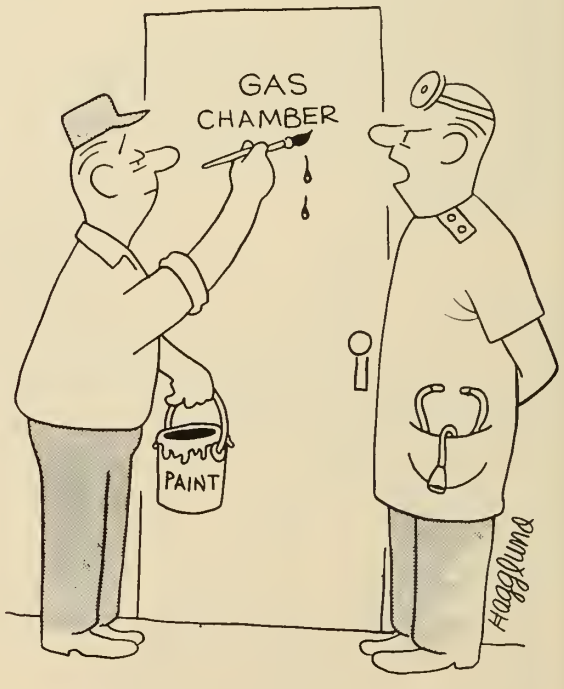
PHYSICIANS PLACEMENT SERVICE

Dr. S. H. Shippey of Rock Hill has announced he plans to retire from active practice of internal medicine this fall. Internists interested in locating in Rock Hill should write to Dr. S. H. Shippey, 237 South Charlotte Avenue, Rock Hill, S. C. 29730.

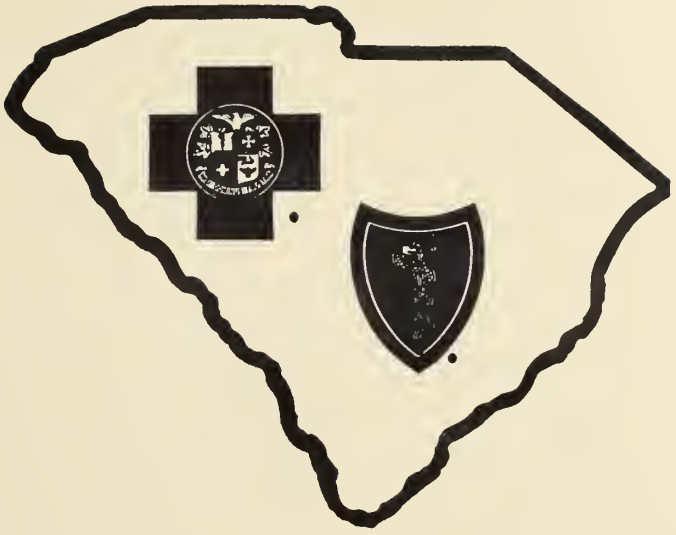
Educational Course Announcement

A continuation course on "Current Practice of Clinical Electroencephalography" will be held September 14-16, 1970, in Washington, D. C. The course is designed to review the principal applications of the EEG to clinical medical practice, and is sponsored by the American Electroencephalographic Society.

Inquiries about further details of the course or registration procedure should be addressed to Dr. Donald W. Klass, EEG Course Director, Mayo Clinic, Rochester, Minnesota 55901.



"It's supposed to say anesthesiology!"



Serving more than 600,000 South Carolinians with a variety of programs for prepayment of the costs of health care, we pay more dollars on hospital, doctor, and nursing home claims in South Carolina . . . . . *more than the combined payments of such benefits by the 15 commercial insurance companies with the largest health insurance business in this state.**

*Source: Sixty-First Annual Report of The Department of Insurance of South Carolina.

Blue Cross®–Blue Shield®
OF SOUTH CAROLINA

THE FUTURE OF PLANNING: THE COMPREHENSIVE HEALTH PLANNING PROGRAM AND THE REGIONAL MEDICAL PROGRAM

E. KENNETH AYCOCK, M. D.
State Health Officer

For months health planners have been speculating about the new legislation due out of Washington concerning the future of Comprehensive Health Planning and the Regional Medical Program. Apprehension now begins where speculation ends. The long awaited proposal for extension of RMP, CHP and related programs was presented to a group of invited representatives of local, state and national agencies on February 16. Titled the "Health Services Improvement Act of 1970," the proposal brings mixed reactions within the health establishment. Clearly, the Nixon Administration envisions a new road for these programs to travel. (Major provisions of the act are summarized below.)

In 1966, the Federal government passed "The Comprehensive Health Planning and Public Health Services Amendments of 1966," and in 1967 "The Partnership for Health Amendments of 1967," Public Law 90-174. This program was created to broaden the scope of and to improve the authorization for research and demonstrations related to the delivery of health services. Section 314(b) of Public Law 89-749 provides authority for Federal monies to be granted to district planning agencies for CHP activities. The CHP program was intricately related to existing health agencies at the local and State levels. Emphasis was placed on the development of State and areawide planning agencies whose duties were to study health problems at the local level and establish priorities for health action. The role of the Federal government was to stimulate action and to provide dollar support to the local areawide planning agencies in order to assist them in their efforts to plan for their own health needs. The role of the State CHP agencies was to assist areawide or community planning agencies by providing supporting information and coordination between the districts and with the state and regional agencies. In general the state agencies do not determine policies for the district agencies, nor do they have regulatory authority over these districts. CHP was to provide help, guidance, tools and stimulation to individuals and agencies to improve their own planning processes by making them more comprehensive. In summary, CHP agencies provide leadership to community health planning.

The Regional Medical Program was established under Title IX of the Public Health Service Act (Public Law 89-239) which authorizes grants to assist in planning, establishing and operating RMP to combat Heart Disease, Cancer, Stroke, and related diseases. These grants are to encourage and assist in the establishment of regional cooperative arrangements among medical schools, research institutes, hospitals, and other medical institutions and agencies for the purpose of affording the medical profession and the medical institutions the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases. As was demonstrated in the formation of CHP, the role of the federal government was subordinate to the local levels in planning programs. The government was to stimulate initiative and innovation at the regional level in planning and implementing regional programs that were fitted to the needs and resources of the region.

Now that the Health Services Improvement Act of 1970 has been presented,

concerned individuals can evaluate the implications of the bill. The purposes of the Act are, in summary, as follows:

1. To provide for efforts to develop improved health care delivery systems through four important health programs: Comprehensive Health Planning, Regional Medical Programs, the National Center for Health Services Research and Development, and the National Center for Health Statistics.

2. To extend the authority for three years of three of these programs: Comprehensive Health Planning, Regional Medical Programs, and the National Center for Health Services Research and Development.

3. To modify the general authority of these programs in the light of experience, coordinating them much more closely, and building on their past successes.

4. To modify the existing authority for the National Center for Health Statistics, and to authorize research, development and demonstration leading to a model Federal-State-local health statistics and information system of use to health planners and decision makers.

With regard to these purposes, while the affected programs will continue as separate entities, the new thrust of the Act is the effort to focus on developing improved health care delivery systems. These efforts will take the form of selected intensive experiments and demonstrations in improved health care systems which will be carefully evaluated, and it is hoped will provide models for health care system organization for the Nation. These experiments, which would take place in a few areas across the Nation by agreement with local officials and private agencies, would involve a variety of approaches, recognizing the enormous variety of local conditions and needs. Among the approaches which are under consideration are the following:

a. In some areas the areawide CHP agency would function as a community oriented planning device with RMP functioning as a provider oriented technical assistance mechanism. This model would be based on a voluntary cooperation with the existence of planning studies, persuasion and availability of technical assistance used as the mechanisms of systems building.
b. In relatively small or simple situations multiple functions could be served by a single combined staff.
c. A more dynamic systems change model could include the development of an areawide CHP agency with community responsibility for structuring a community health care system. Through administrative mechanisms this trusteeship could be provided with considerable authority over other grant programs and capital funding decisions. (Some funds could be transferred from one or more agencies to a different agency that needs additional funds to administer a program of mutual interest. These funds would then meet the expenditure requirements of the agency conducting the program and requirements of donating agencies may be waived.) RMP would provide a variety of specialized regional assistance efforts from outside the community, including technical assistance on the development of primary care, training and continuing education assistance, the planning and technical assistance for specialized services, the development of a regional referral system and professional supervision of quality control.
d. Some models could include the assumption of geographic responsibility by community hospitals. This responsibility would extend across all levels of care and would expand the concern of the hospital to the total efficiency of the system rather than the efficiency of acute care. A geographic responsibility concept would also avoid the pressures to maximize the income of only one segment of the system at the cost of inefficiencies for the total system.
e. Other models could include competitive prepaid group practices with various options including the ownership of a hospital.

Most obviously, the Administration is

seeking new approaches to the delivery and financing of health services. By merging these three programs under a "common statement of purpose," the Administration expects to develop a more unified attack on our county's fragmented health care system.

Although the Administration offers assurance that the CHP and RMP programs will be continued in virtually the same capacity as they now operate, discontented voices are already expressing opposition to some of the new measures. Representing the American Heart Association, Dr. Michael E. DeBakey, Professor of Surgery and president of Baylor College of Medicine presented the Association's views during hearings of the health subcommittee. Dr. DeBakey expressed concern over the decategorization of the RMP programs. He stated that, "although cooperative arrangements among health care providers are important, RMP's categorical focus gives specificity to the RMP's which has been particularly valuable in the development phase." He went on to say that RMP should first have the opportunity to demonstrate that it has improved care in the specific diseases stated in the act. Once this has been accomplished, RMP could expand its program to include all health care services. In regard to a single national council established to advise the HEW Secretary on the merged program, Dr. DeBakey considered such a proposal "very undesirable" and questioned "how a single council can deal constructively with the wide diversity of elements included in these three separate programs."

Among CHP circles, implications of the new bill raised concerned questions such as: (1) Will the Department of HEW exert stronger influence in determining future health systems? (2) How will cooperation be encouraged among the three programs? RMP providers are now serving on areawide comprehensive health planning councils. (3) Will the scope of the National Advisory Council include broad representation of interest? (4) Is this initiative from the Federal level really necessary when this trend for closer cooperation had already started between CHP and RMP activities in some areas of the country? (5) Why does it make more sense to merge RMP and CHP instead of CHP with other agencies? The ultimate purpose of CHP is coordination. However, as long as health agencies remain separate entities (mental health, mental retardation, housing, environment, etc.) CHP has no authority to establish coordination among these agencies. Would it not be more feasible to merge CHP with some of these agencies rather than with RMP? As yet, the Nixon Administration has given no specific reasons as to why these particular programs have been selected for merging. The obvious benefits of such a merger remain to be seen. If the ultimate purpose of CHP is coordination, perhaps other state agencies should be merged so that CHP can carry out its purpose.

The Academy of CHP Directors, in its recent meeting in Washington, did not support the bill. Consensus was that CHP was still too young to be amalgamated efficiently. The directors favor a simple three-year extension.

The Nixon Administration purports that it has unanimous support for its bill. But this is not the case. Critics of the proposed bill have responded with alternative proposals. Congressman Rogers of Florida has introduced legislation which would amend and extend for three years the CHP and Services program. Unlike the Administration bill, the Rogers bill does not combine under one title the three health programs.

In support of a merger, Thomas M. Dunaye, M.P.H., Assistant Professor, of the Graduate Department of Community Planning at the University of Cincinnati explained to the American Public Health Association in November, regarding CHP and RMP programs, "Two distinct patterns can be observed: either programs starting to build partnerships but failing to enlist the necessary community participation, such as the Regional Medical Programs; or conversely, programs starting to enlist community participation but failing to build the necessary partnerships, such as those of OEO, HUD, and even Partnerships for Health. We seem to have fallen into an "either-or" approach rather than the more effective combination of both concepts

applied to all of these programs within a unified framework. Converging the mutual strengths of each principle might well eliminate their separate weaknesses in current applications."

The initiation of any new program is difficult and costly in both the time and resources that must be invested in initial organizational effort. Comprehensive Health Planning is only now leaving the organizational stage and entering the operational stage. It would be unfortunate to require RMP and CHP to devote major efforts to reorganization, thus further delaying the benefits which should now begin to emerge from both programs.

OPERATION MEDIHC

The State Board of Health, the State Comprehensive Health Planning Agency, has been named to coordinate Operation MEDIHC. Dr. Aycock has delegated the responsibility of administering the program to the Office of Comprehensive Health Planning. It has been estimated that during the twelve months period July 1, 1968 to June 30, 1969, 480 military personnel with special medical training and experience who were discharged from military service returned to reside in South Carolina. For the health care field this project should be instrumental in providing a significant resource of health manpower from those trained by the military and returning to civilian life. This will help to alleviate some of the shortages that exist in health occupations.

Millions of tax dollars have been used by the Armed Forces to train medical care personnel. Upon return to civilian life only about 19 per cent of these trained persons go into civilian health occupations and 22 per cent enter combined work-education programs for health careers. The majority are lost to the health field, with the resultant loss of tax money spent for their training.

A new cooperative effort by the Department of Health, Education and Welfare and the Department of Defense to help make better use of this health manpower resource is called Operation MEDIHC, an acronym for Military Experience Directed Into Health Careers. It is designed to expedite the placement of those who would like to continue work in health care in civilian life. Individuals who require additional education will be in formed of the educational opportunities available to them. After counseling by the Armed Forces program called Project Transition, interested persons will be referred to the State Coordinator of MEDIHC. The State Coordinator will contact each individual and work with him or her toward the desired career goals.

DR. MORDECAI NACHMAN

Dr. Mordecai Nachman, 63, urologist of Greenville, died May 23, 1970.

He was born in Lake City and attended the College of Charleston and graduated from the Medical College of South Carolina. He had worked at hospitals in Charleston and Greenville. Dr. Nachman was a consultant in Urology at Greenville General Hospital and St. Francis Hospital in Greenville.

DR. U. G. TEELE

Dr. U. G. Teele of Georgetown died May 27, 1970.

Dr. Teele was a native of Greenville, N. C., and was graduated from Shaw University Medical School in Raleigh. Dr. Teele moved to Georgetown in 1914 and began a medical practice what was to span over 50 years. He was a staff member of the Georgetown County Memorial Hospital since its opening.

He was active in many phases of Georgetown community life.

DR. ROGER SHORT SIDDALL

Dr. Roger S. Siddall, 75, died May 15, 1970 in Sumter.

He was a graduate of John Hopkins University and was assistant professor of clinical obsterics and gynecology at Wayne State University. He was a member of the central Association of Obstetrics and Gynecology and was a member of the American Medical Association and was a fellow of the American College of Surgeons. He was a member of the Detroit Academy of Medicine,the Sumter Rotary Club.

DR. RIDDICK ACKERMAN

Dr. Riddick Ackerman, 90, died May 20, 1970 at Colleton County Hospital.

Dr. Ackerman, a native of Cottageville, practiced medicine in Colleton County for 63 years before retiring in 1965. Even after retiring from the active practice of medicine he maintained his interest in his former patients and treated many at his home.

Upon graduation from Carlisle Academy at Bamberg, Dr. Ackerman entered the Medical College of South Carolina directly from high school, and was the youngest graduate of this college at the time. He had to wait several months after graduation before he could apply for his license to practice medicine, as one of the requirements was that applicant had to be at least 21 years old. Having completed the medical college in 1900, he graduated from the School of Pharmacy the next year and then went to Cottageville to begin the practice of his profession.

After two and a half years at Cottageville he moved to Walterboro where he practiced until he retired.

He was a member of the American Medical Association, the South Carolina Medical Association and the Coastal Medical Society.

Dr. Ackerman is one of the two doctors honored with a plaque being placed in the hall of Colleton County Hospital.

Schering

After only one year:

Administered to more people than live in Charleston, Spartanburg, and Greenville.*



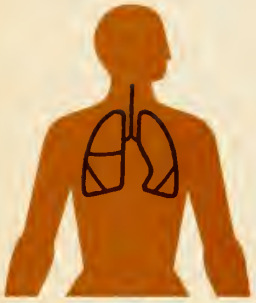
Injectable
Garamycin®
brand of
gentamicin sulfate
injection

*An estimated 208,000 patients have received GARAMYCIN Injectable to date. The combined population of Charleston, Spartanburg, and Greenville is 197,000. (Estimated 1969 figures from The New York Encyclopedic Almanac 1970.)

See Clinical Considerations section on last page...

Mounting acceptance in the hospital...

Proven clinical effectiveness



Respiratory Infections

Outstanding results in serious gram-negative respiratory infections[1,2]

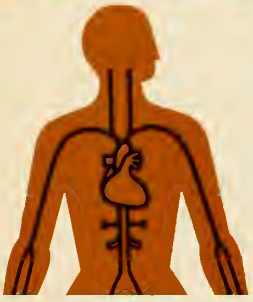
GARAMYCIN Injectable may prove successful where other antibiotics have failed.



Urinary Tract Infections

Strikingly effective in selected urinary tract infections[3]

With relatively low intramuscular doses, the promptly attained levels of GARAMYCIN achieved in the urine are considerably higher than the concentrations required for effectiveness against virtually all susceptible gram-negative pathogens. (Appropriate precautions are indicated in patients with impaired renal function; consult Package Insert for full details.)



Septicemia

May be lifesaving[4-6]

Numerous investigators have drawn attention to the value of GARAMYCIN Injectable in the treatment of gram-negative septicemias, often complicated by shock. Many hospital strains of *Serratia* are susceptible.[6]



Wounds and Burns

Response may be dramatic in wounds and burns complicated by sepsis[7]

The established efficacy of GARAMYCIN Injectable against *Pseudomonas*—as well as most other gram-negative pathogens—makes it an especially useful agent in the treatment of infected wounds and burns.

Important Precautionary Note Patients receiving treatment with GARAMYCIN Injectable (gentamicin sulfate injection) should be under close clinical observation because of the toxicity associated with the use of the drug. Ototoxicity, vestibular and auditory, can occur in patients, primarily those with preexisting renal damage, treated with GARAMYCIN Injectable for longer periods or with higher doses than recommended.

GARAMYCIN Injectable is potentially nephrotoxic, and this should be kept in mind when it is used in patients with preexisting renal damage.

This drug should be limited to the treatment of serious infections caused by susceptible gram-negative bacteria, with due regard for relative antibiotic toxicity. (See Clinical Considerations section.)

Mounting evidence in the laboratory...

Schering

Over 95% gram-negative pathogens sensitive.*

No other antibiotic performed comparably *in vitro* against gram-negative pathogens.
In a nationwide culture audit of antibiotic sensitivity patterns, sensitivity reports from 106 hospitals, geographically representative by census tract and of varying sizes, were analyzed. During the three-month period, ***every*** gram-negative culture slip from ***every*** hospital was surveyed. The total number of cultures involved in the audit was 97,091. The total number of sensitivity determinations was 643,503.

Pathogens	Percentage of sensitive strains / Number of strains tested — Antibiotics*							
	Garamycin	Kanamycin	Cephalothin	Cephaloridine	Ampicillin	Colistimethate	Chloramphenicol	Tetracycline
Klebsiella pneumoniae	99.5% 962	84.7% 992	86.2% 995	76.1% 67	32.7% 1,020	96.3% 640	82.9% 1,028	77.1% 1,026
Aerobacter aerogenes	95.9% 2,739	86.1% 2,818	53.5% 2,985	58.8% 1,514	22.7% 3,066	88.6% 2,603	85.8% 3,071	67.8% 2,981
Klebsiella aerobacter group	98.8% 566	83.9% 547	66.1% 522	60.5% 276	28.0% 553	89.5% 560	86.2% 587	62.8% 433
Klebsiella, all others	92.7% 2,944	83.3% 3,186	77.4% 2,976	67.5% 627	13.5% 2,883	95.0% 2,105	81.6% 3,212	70.6% 3,063
Pseudomonas aeruginosa	91.6% 4,528	29.8% 4,460	6.6% 4,418	6.6% 1,279	6.0% 4,360	91.3% 3,852	26.9% 4,608	26.4% 4,404
Proteus, indole-positive	91.8% 1,031	85.8% 1,062	39.9% 981	54.1% 364	40.2% 1,042	10.3% 758	76.1% 1,096	42.1% 1,051
Proteus mirabilis, indole-negative	94.9% 3,272	90.1% 3,378	83.1% 3,290	77.5% 975	78.0% 3,274	8.8% 2,634	85.9% 3,469	26.8% 3,278
Proteus, unspecified	96.2% 1,335	85.8% 1,371	71.7% 1,434	70.0% 647	64.7% 1,435	11.2% 1,233	76.0% 1,421	22.4% 1,298
Escherichia coli and all other *Escherichias*	96.4% 12,557	91.4% 12,818	87.8% 12,686	88.8% 4,251	74.6% 12,899	95.4% 10,623	94.1% 13,086	70.0% 12,559
Paracolobactrum, all	93.4% 303	88.9% 325	62.0% 305	74.2% 62	43.8% 340	80.9% 215	87.1% 350	72.6% 340
Coliform bacteria	99.0% 593	91.2% 649	81.5% 637	66.7% 21	52.7% 624	95.6% 607	91.6% 678	76.1% 637
Totals	95.1% 30,830	80.5% 31,606	65.3% 31,229	68.1% 10,083	50.3% 31,496	75.8% 25,829	79.7% 32,606	56.5% 31,070
Gram-positive (included for consistency with Package insert, not an approved indication)								
Staph—*S. aureus*, coagulase-positive	97.4% 1,548	88.8% 1,458	97.7% 2,050	98.7% 636	61.1% 1,559	20.4% 628	94.4% 2,123	83.7% 1,966
Staph—*S. aureus*, unspecified	99.3% 993	92.8% 902	98.1% 1,289	95.3% 213	45.8% 1,153	29.3% 116	96.4% 1,427	82.3% 1,360

*Adapted from a three-month, nationwide hospital audit by R. A. Gosselin and Co., Inc., Dedham, Massachusetts (mid-May to mid-August, 1969).[5]
Antibiotics with significant gram-negative spectra are included. Organisms are listed as reported by laboratory.
Sensitivity testing was done by the disc method, a generally reliable test in the hospital setting. It should be noted, however, that the results with GARAMYCIN were somewhat higher than the results reported where the tube dilution technique was used. (See Clinical Considerations section which follows.) The concentration of the GARAMYCIN disc was 10 mcg.
Whereas standard testing methods were used by all hospitals, it is acknowledged that in a survey of this kind considerations such as differences in methodology are possible sources of error. The comparative percentage-sensitivity results derived from a survey of this kind are, therefore, not absolute. One should keep in mind also that the proper selection of an antibiotic is based not only on susceptibility testing but on relative toxicity and other clinical considerations as well.
It is felt, nonetheless, that the broad scope of the survey and the extreme care in data collection and tabulation permit a conclusion that the results are *generally* representative of current nationwide antibiotic sensitivity patterns.

Injectable Garamycin®
brand of gentamicin sulfate injection

See Clinical Considerations section on last page...

Injectable Garamycin

brand of gentamicin sulfate injection

ADULT DOSAGE GUIDELINES

See definitive prescribing information in Package Insert.

Patients with Normal Renal Function

Total Daily Dose (administered in two, three, or four divided doses)			
Urinary Tract Infections (due to susceptible strains of gram-negative bacteria)†	Less Severe 0.8-1.2 mg./kg. for 7-10 days	Resistant/ Moderately Severe Larger doses or additional antibacterial therapy should be considered in severe urinary tract infections or in resistant cases involving the renal parenchyma or anatomic anomaly.	Serious/Life-Threatening up to 5 mg./kg.
Other Infections including bacteremia, infected surgical wounds, severe soft tissue infections, and respiratory tract infections (due to susceptible strains of gram-negative bacteria)	3 mg./kg. for 7-10 days		

†Alkalinization of the urine may be a useful therapeutic adjunct.

Patients with Impaired Renal Function

To minimize the risk of ototoxicity in patients with impaired kidney function, only the first dose should be that normally recommended. Each subsequent dose should be half or less of that recommended for patients with normal renal function, depending upon the degree of renal impairment.

In patients with renal failure who are undergoing 14-hour hemodialysis twice weekly, administration of 1 mg./kg. GARAMYCIN Injectable at the end of each dialysis period has been suggested.

Clinical Considerations

Indications: GARAMYCIN Injectable is clinically effective in infections due to susceptible strains of gram-negative bacteria, including *Pseudomonas aeruginosa*, and species of indole-positive and indole-negative *Proteus*, *Escherichia coli*, and *Klebsiella-Aerobacter*. Bacteriologic studies should be conducted to identify the causative organism and to determine its sensitivity to gentamicin sulfate. Sensitivity discs of the drug are available for this purpose. If the susceptibility tests indicate that the causative organism is resistant to gentamicin sulfate, other appropriate antibiotic therapy should be instituted.

IN VITRO INHIBITION OF CLINICALLY IMPORTANT BACTERIA BY GENTAMICIN SULFATE (TUBE DILUTION STUDIES)

BACTERIA	No. of Strains Tested	No. of Strains (%) Inhibited by: 4 mcg./cc. or less		8 mcg./cc. or less*		No. of *In Vitro* Studies
Staphylococcus aureus	1,210	1,200	(99%)	1,206	(99%)	11
Pseudomonas aeruginosa	885	771	(87%)	828	(93%)	16
Escherichia coli	836	736	(88%)	779	(93%)	11
Indole-positive and indole-negative *Proteus* species	477	210	(44%)	358	(75%)	12
Klebsiella-Aerobacter species	292	205	(70%)	231	(79%)	10

*Number of strains (%) of gram-negative bacteria inhibited by 10 mcg./cc. or less are as follows: *Pseudomonas aeruginosa*, 828 (93%); *Escherichia coli*, 792 (95%); *Proteus* species, 393 (82%); *Klebsiella-Aerobacter* species, 284 (97%). From same studies as above.
Source: Package Insert

This drug should be limited to the treatment of serious infections caused by gram-negative bacteria, particularly *Pseudomonas aeruginosa*, *Proteus* and other susceptible organisms, with due regard for relative antibiotic toxicity. Therefore, the drug should be considered for use against gram-negative: 1. Bacteremia; 2. Infected surgical wounds; 3. Severe soft tissue infections, including burns complicated by sepsis; 4. Respiratory tract infections; and 5. Selected cases of urinary tract infection.

Contraindications: GARAMYCIN Injectable is contraindicated in individuals with a history of hypersensitivity or toxic reactions to gentamicin.

Warnings: Patients receiving treatment with GARAMYCIN should be under close clinical observation because of the toxicity associated with the use of this drug. Ototoxicity, vestibular and auditory, can occur in patients, primarily those wi pre-existing renal damage, treated with GARAMYCIN Injectab usually for longer periods or with higher doses than recommende

GARAMYCIN Injectable is potentially nephrotoxic, and th should be kept in mind when it is used in patients with pre-existir renal impairment. Kidney function diminished by infection of t upper urinary tract may, however, improve during effective trea ment with GARAMYCIN Injectable.

Concurrent administration of potentially ototoxic drugs such streptomycin and kanamycin or of potentially nephrotoxic dru such as polymyxin, colistin, and kanamycin with gentamicin sulfa has not been shown to afford any clinical advantages and, moreov may result in additive toxicity. Monitoring of vestibular, cochlea and renal function will provide guidance for therapy in such case

Precautions: In patients with impaired renal function in who serious infection develops, serum concentrations of the drug ma rise, with consequently increased risk of ototoxicity. In these p tients or in those in whom recommended dosage or duration therapy must be exceeded as a life-saving measure, routine studi of kidney function should be performed when possible. These ma be supplemented by evaluation of the vestibular and auditory fun tion and measurement of serum concentration of the drug whe feasible. Serum concentrations of gentamicin should be maintaine below the range of 10-12 mcg./ml. to reduce risk of ototoxicity.

Ordinarily, treatment should not be given for more than 7 to days or be repeated unless required for serious infection not r sponsive to other agents.

As with other antibiotics, treatment with GARAMYCIN Injectab may occasionally result in overgrowth of nonsensitive organisms. superinfection occurs, appropriate therapy is indicated.

Safety for use in pregnancy or the potential for fetal ototoxicity nephrotoxicity have not been established. Studies in pregnant an mals have not revealed teratogenic or ototoxic effects in the fetu GARAMYCIN Injectable should not be used in pregnant patients in women of childbearing age unless its use is deemed advisab by the physician.

Adverse Reactions: The overall incidence of ototoxicity considere related to treatment with GARAMYCIN Injectable was 2.8 per cen (16 of 565 patients). Contributory factors (two or more factors wer relevant to most patients) were as follows: 10 had azotemia, received a total of 1 gram or more of the drug, 7 had recently re ceived other potentially ototoxic antibiotics (streptomycin or kana mycin), and 5 were over 60 years of age. Six also had decrease high-tone hearing acuity, which returned to or toward normal i the 4 patients retested.

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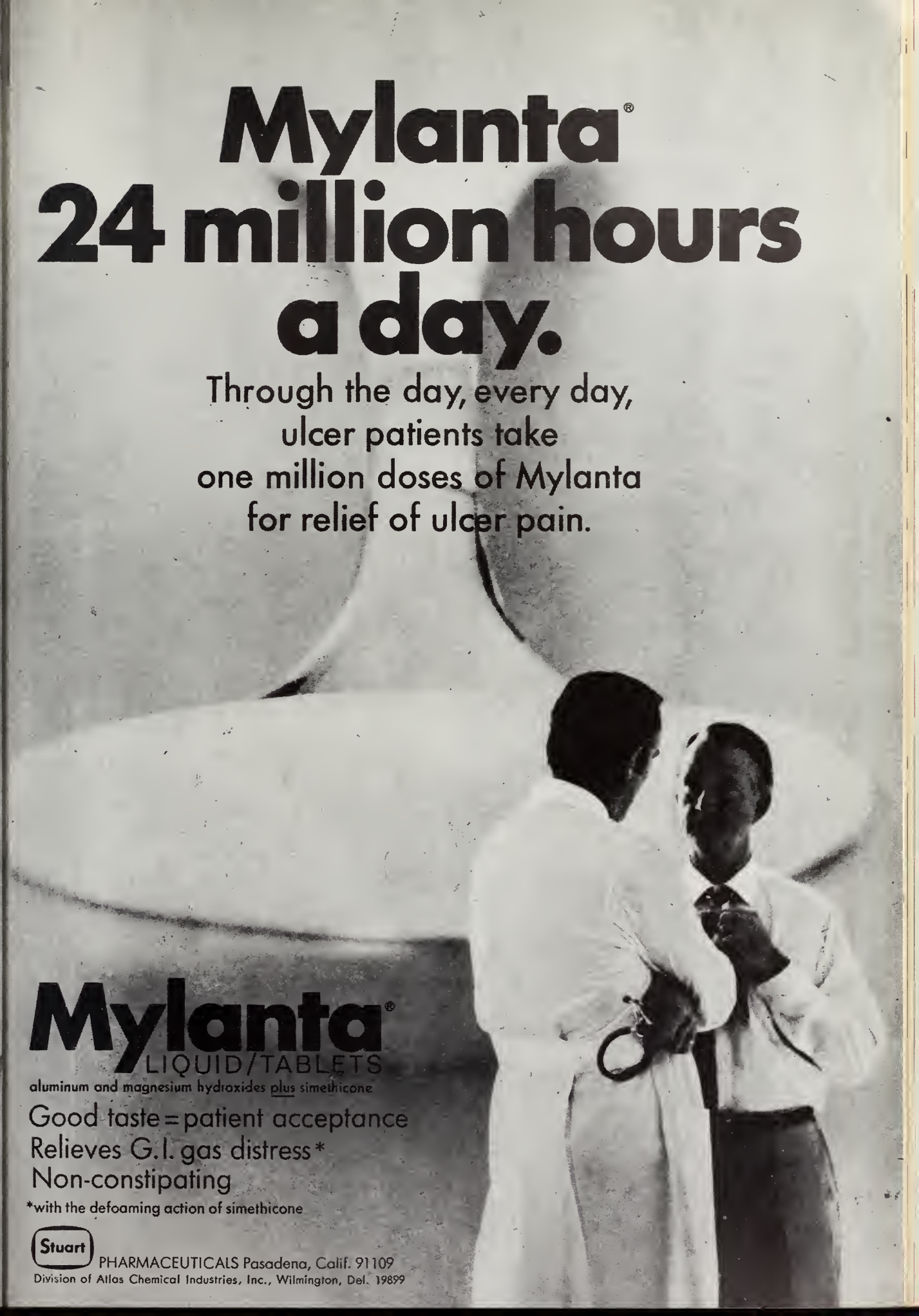
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THE FREDERICK E. KREDEL HONORARY PROFESSORSHIP

Curtis P. Artz, M. D., F. A. C. S.
Chairman, Department of Surgery,
Medical University of South Carolina

The Frederick E. Kredel Honorary Professorship was established in the Department of Surgery at the Medical University of South Carolina in honor of Dr. Kredel, the first full time Professor of Surgery and Chairman of the Department. The support of his residents, many admirers and the South Carolina Surgical Society has made this possible.

Dr. Kredel was born in Pittsburgh, Pennsylvania, and was graduated from the University of Pittsburgh with a Master of Science degree. He received his Doctor of Medicine from Johns Hopkins University and was trained in surgery at the University of Chicago under Dr. Dallas Phemister. He came to the Medical College of South Carolina in 1937 as a Professor of Surgery when Dr. Robert Catheart was Chairman of the Department. In 1944 Dr. Kredel took over as Chairman. His first chief resident was Dr. Daniel L. Maguire, Jr. Dr. Kredel's tenure as Chairman of the Department lasted until his death in 1961 for a total of 17 years. During his time 26 surgeons served as chief residents in surgery.

Dr. Kredel was a guiding light in the planning and organization of the Medical College Hospital when it was built. Students admired him. He deplored pretentiousness and insincerity. One of his great joys was playing the mandolin.

Dr. Kredel had a great interest in neurologic surgery and at one time he performed a number of operations on hemiplegics. The operations involved the use of temporal muscle transplants to try to re-establish vascularization of the brain. He served as President of the Charleston County Medical Society, South Carolina Surgical Society and South Carolina Chapter of the American College of Surgeons. He was a charter member of the Society of University Surgeons and served on its Executive Committee, Membership Committee and as Treasurer. He was a member of the Board of Governors of the American College of Surgeons and of its Motion Picture Committee. He also held membership in the American Surgical Association, the Southern Surgical Association, International Society of Surgery and the Southeastern Surgical Congress.

He received one of 23 Distinguished Service Awards from the University of Chicago in 1952. In 1953 he was awarded a medal by the American Cancer Society for being the outstanding contributor of the 1952 program in the State of South Carolina. He also received a citation from the American College of Surgeons for a teaching film entitled, "Acute Abdominal Injuries."

This kindly and humble man is honored for his contributions to surgery, for the men he has trained in surgery and, most of all, for organizing the Department of Surgery at the Medical University of South Carolina. He was tremendously interested in students; therefore, it is only fitting that an honorary professorship be established in this school in his name.

ROBERT MILTON ZOLLINGER

The first recipient of the Frederick E. Kredel Honorary Professorship at the Medical University of South Carolina was Robert Milton Zollinger, Regents Professor of Surgery and Chairman of the Department at the Ohio State University, Columbus, Ohio. Dr. Zollinger received the award in Baruch Auditorium on April 6, 1970 and immediately thereafter gave the Honorary Lecture entitled "Pancreatic Adenomata and Peptic Ulceration." It is essentially the compilation of his work which started with the discovery of malignant peptic ulceration being caused by adenomas of the pancreas which has come to be known as the Zollinger-Ellison Syndrome in 1956.



Robert Milton Zollinger, M.D.

CITATION

Robert Milton Zollinger was born in the Buckeye Lake section of central Ohio. He was educated at Ohio State University and its medical school. He interned at the Peter Bent Brigham Hospital, served as a resident in surgery at the Lakeside Hospital and returned to the Brigham and Harvard with Dr. Elliott Cutler. He was appointed to the faculty at Harvard and later during World War II, had a very distinguished career in the Army as a Senior Consultant in Surgery for the European Theater and Commanding Officer of the Fifth General Hospital.

Dr. Zollinger is well known throughout the country and abroad as an outstanding teacher and a creative organizer in the field of surgery. He has held many responsible positions in surgical organizations.

His teaching has been well recognized beyond his own department. He is undoubtedly one of the great panel moderators of the medical world. More than two dozen institutions in his country have honored him with naming visiting lectureships and professorships. In 1965 he was awarded an honorary fellowship in the Royal College of Surgeons of England and the following year in the Royal College of Surgeons of Edinburgh. He has been the recipient of numerous medals and awards. He received honorary fellowship in the Southeastern Surgical Congress a few years ago, and about the same time was given the Distinguished Achievement Award by *Modern Medicine.*

His research and clinical interests have been in many areas of general surgery but primarily in the field of gastrointestinal surgery. The syndrome in which non-beta cell tumors of the pancreas produce intractable peptic ulcer disease carries his name.

Dr. Zollinger is author of *Atlas of Surgical Operations.*

NON-BETA ISLET CELL TUMORS:

CURRENT CONCEPTS

ROBERT M. ZOLLINGER, M.D., FACS, Hon FRCS (Eng), Hon FRCS (Edin)
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The Ohio State University College of
Medicine
Columbus, Ohio 43210

It is fitting and proper in this city, rich in 300 years of great traditions, that the friends and pupils of the late Professor Frederick Evert Kredel have ensured that his illustrious name will continue to be part of the heritage of this medical university in the years to come (Fig. 1). I can recall reading last year in Dr. Artz's annual report of the Department of Surgery that the establishment of the Frederick E. Kredel Honorary Professorship was one of his Department's dreams. Little did I realize that I would be the first recipient of this distinguished professorship, and I must confess that I've been concerned if I'd be worthy of this great honor. I hope that as the soul of this gentle and scholarly man looks down upon this occasion, he will know that the spirit he imparted to the Department of Surgery, this Medical University and, indeed, to American Surgery, has been rekindled by his friends, associates and successors.

On this occasion, we should pause to reflect on some of the many accomplishments of Frederick Kredel and the heritage he left to this Medical University. Born in Pennsylvania in 1903, Dr. Kredel received his bachelor and master degrees from the University of Pittsburgh. It was my privilege to become acquainted with him more than 40 years ago, in the summer of 1929, when we were both associated with Dr. Harvey Cushing at the Peter Bent



Fig. 1. Portrait of Frederick E. Kredel.

The First Frederick E. Kredel Honorary Lecture, School of Medicine of the Medical University of South Carolina, Charleston, S. C., April 6, 1970.

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Brigham Hospital in Boston. I recall that Dr. Kredel was interested in tissue culture and worked as a medical student during the summer of 1929, when I was a surgical intern. Certainly, the Chief would never have tolerated a young medical student in his laboratories, even one from Johns Hopkins Medical School, unless he was convinced of his long-term potential as a surgical investigator. After attaining his doctor of medicine degree from Johns Hopkins Medical School in 1929, he took his post-MD surgical training at the University of Chicago, under the great Dallas Phemister, and served as an instructor in surgery before coming to Charleston in 1938. With this distinguished background, it is a small wonder that he had such a productive academic career.

Dr. Kredel succeeded Dr. Robert Cathcart in 1944, as the first full-time Professor of surgery and chairman of the department. Not only did Dr. Kredel bear the major responsibility for the development of this school's four-year postgraduate surgical training program, but he was also the guiding light in the planning and organization of the surgical department when the Medical College Hospital was built.

Although Dr. Kredel was a member of all the major national and regional surgical societies. I suspect that he was particularly proud of his charter membership in the Society of University Surgeons, because it enabled him to exchange ideas with other investigators of his own age who hoped to devote their lives to an academic career in surgery. He probably all too modestly considered membership in these distinguished societies more as recognition of the activities of this Department than of his own many significant contributions.

Frederick Kredel was a master surgeon from every point of view (Fig. 2). He was truly a surgical scholar, starting with his early days in medical school, and extending throughout his all too short surgical career. This occasion is sustained evidence that he was an outstanding teacher, and his many publications on a wide variety of subjects marked him as a productive investigator.

FREDERICK EVERT KREDEL, M.D.

Master Surgeon

Surgical Scholar

Stimulating Teacher

Productive Investigator

Academic Leader

Fig. 2. Characteristics of Frederick E. Kredel.

Certainly, he will always be remembered as the man who initiated the first academic, four-year surgical training program in the great state of South Carolina. The name of Kredel richly deserves the hallmark of distinction as one of those who has contributed so much during the third century of existence of this city and state.

Presenting this lecture is indeed a treasured honor for me, not only because I had admired Frederick Kredel from his medical school days, but also because of the pride and confidence I have had in my former associate, Dr. Curtis P. Artz, who is just bursting with enthusiasm as he strives to live up to the Kredel traditions. Few men have experienced such a sense of satisfaction. And perhaps this gives me the right to talk about one of my long-time hobbies, namely, non-beta islet cell tumors of the pancreas, and their association with the first two gastrointestinal hormones, secretin and gastrin. Actually the privilege of talking about one's own hobbies was justified many years ago by Sir William Osler who, in 1909, wrote:

> No man is really happy or safe without (a hobby), and it makes precious little difference what the outside interest may be—botany, beetles or butterflies, roses, tulips or irises; fishing, mountaineering or antiquities—anything will do so long as he straddles a hobby and rides it hard!

As many of you know, the late Dr. Ellison and I became interested in non-insulin-producing islet cell tumors of the pancreas in 1955. At that time, we

proposed a diagnostic triad consisting of marked gastric hypersecretion and fulminating ulcer diathesis as a result of some hormone produced in excess by an unidentifiable islet cell tumor . It was our opinion that these tumors were producing such a potent gastric secretagogue that the stomach would literally digest itself unless all of the acid-secreting mucosa was removed by total gastrectomy. This rather bold and radical concept was not really new, since physiologists and clinicians as well had long suspected that the pancreas might play a role in the unexplained etiology of peptic ulcer.

As a matter of fact, Dr. Edgar Poth, Professor of Surgery at the University of Texas Medical Branch in Galveston, concluded after a series of experiments in 1948 that: "Both the internal and external secretions of the pancreas may be involved in ulcer formation[3] ,". He made these observations after administering histamine in beeswax followed by ligation of the pancreatic ducts or by pancreatectomy in dogs. The experimental ulcers tended to be multiple and fulminating, in contrast to those in the control experiments.

Approximately five years after the initial report, Professor R. A. Gregory of Liverpool confirmed our suspicion that indeed these islet cell tumors were producing a potent gastric secretagogue[4] . He found that extracts of these tumors were similar in their physiologic effects to the substance he had been able to extract from porcine antrum using his picric acid technic. He introduced the concept that ulcerogenic tumors secreted gastrin, and in amounts more than 30 times that found in a similar weight of hog antrum. In addition, Professor Gregory was also able to extract this same potent gastric secretagogue from islet cell metastases to the liver. This is not an unexpected finding, since the metastases of endocorine neoplasms have long been known to retain the hormonal activity of the mother tumor.

These observations by Gregory combined with the eventual synthesis of gastrin as a polypeptide composed of 17 amino acids gave convincing support to the original observations of J. S. Edkins in 1905[5] . He had proposed the name, gastrin, for the extract he had been able to prepare from the antrum of the stomach. Almost 55 years had elapsed before evidence was accumulated that a clinical syndrome due to the excess production of gastrin was recognized. It certainly was unexpected that non-beta cell tumors would be responsible for this rich extragastric source of the polypeptide hormone gastrin.

It wasn't long after the original description of the non-beta islet cell ulcerogenic tumor syndrome that many more case reports were forthcoming. As a matter of fact, at least 650 cases have been reported in the world literature. In the 601 cases which we have carefully studied, intractability to medical treatment was present in almost one-half or 46 per cent of the cases. This ulcer complication was followed by hemorrhage in 31 per cent and perforation in 17 per cent of the cases. It is significant that in 7 per cent there was a primary jejunal ulcer perforation just beyond the ligament of Treitz in patients who had not undergone previous surgery for ulcer. Obstruction occurred in only 6 per cent. Clinically significant is the finding that in one of five cases with an ulcerogenic tumor, the patient had routine ulcer symptoms which were not producing complications.

As cases of the ulcerogenic syndrome rapidly accumulated in great numbers, the need for a specific diagnostic test to confirm a clinical suspicion based on the history and laboratory findings would be very helpful. The demonstration that gastrin is the active principle in ulcerogenic tumors suggested that bioassay might be invaluable for detecting the extreme hypergastrinemia associated with this syndrome. K. S. Lai, utilizing the technic of Ghosh and Schild, developed such a bioassay for gastric secretagogues, and we have utilized this test in an effort to make a preoperative diagnosis of ulcerogenic tumor.[6,7]. While the bioassay has been in-

valuable on many occasions, at times it has not betrayed the presence of a gastrin-producing tumor of the pancreas. We are currently analyzing our experience with 400 tests to determine the accuracy and usefulness of the "Lai Rat" bioassay.

We are increasingly hopeful that immunochemical measurement of serum levels of gastrin, using the radioimmunoassay first developed by Dr. James McGuigan, will afford clinicians a more direct and accurate method for diagnosing ulcerogenic tumors of the pancreas.[8]. It has already been possible to record serum gastrin levels in patients with an ulcerogenic tumor that greatly exceed those found in patients who have peptic ulcer or no gastrointestinal disease at all. Levels as high as 60,000 picograms of serum gastrin have been found in the presence of an ulcerogenic islet cell tumor of the pancreas, in contrast to the normal levels of about 200. It was originally hoped that the gastrin immunoassay would be of great help in ferreting out those duodenal ulcer patients with marked acid hypersecretion who would obviously need some type of operation to overcome their ulcer diathesis. Unfortunately, so far this invaluable test has so far not proven to be of such assistance, since the high acid levels tend to inhibit the production of gastrin except when the gastrin comes from an extragastric source. In addition to the high levels of gastrin recorded for ulcerogenic tumors, it has been proven that patients with pernicious anemia have hypergastrinemia apparently due to the lack of the inhibiting effect of hydrochloric acid. Articles recounting the experience of various investigators with serum gastrin radioimmunoassay are now appearing regularly in the literature, and recently Hansky reported that the normal, fasting gastrin level was about 115 picograms, while that for duodenal ulcer was considerably less (about 53)[9] . Further proof that the excess of hydrochloric acid depressed gastrin production was provided by the findings in gastric ulcers, where the gastrin levels were about three times as high as in duodenal ulcer patients, averaging in the range of 165 picograms. These values fit in with the suggestion made by Dr. Lester Dragstedt many years ago that an excess production of gastrin may be an etiological factor in gastric ulcer[10] .

Hansky was also able to determine that the levels of gastrin in pernicious anemia were similar to those associated with an ulcerogenic tumor. The introduction of food into the stomach or the induction of insulin hypoglycemia increased the serum gastrin levels, while the administration of secretin, as might be expected, had a depressing effect. The radio-immunoassay for serum gastrin, when readily available to all physicians, will greatly simplify the diagnosis of an ulcerogenic tumor, particularly in those patients with a typical history and laboratory findings as well as those who have had previous ulcer operations where the diagnosis is so many times challenging because of the difficulties in obtaining an accurate gastric analysis.

Shortly after the syndrome of fulminating ulcer diatheseis accompanied by marked gastric hypersecretion and non-beta islet cell tumor was described, other clinicians began to call attention to the association of polyglandular involvement as well as diarrhea with these islet cell tumors. The concept of familial multiple endocrine adenomatosis associated with peptic ulcer had been advanced earlier by Wermer[11]. It was his contention that the peptic ulcer in these patients was another manifestation of a dominant autosomal gene with a high degree of penetrance, rather than the result of the hormonal influence of the adenomas themselves. A review of the 601 cases available to us at the present time showed that a second gland of internal secretion, namely the parathyroid, was involved in about 23 per cent of the cases. This was followed by the pituitary (17 per cent), adrenal (16 per cent), thyroid (12 per cent) and insulin producing beta cell tumor (3 per cent). In all fairness it should be stated that in no more than approximately half of the cases was there sufficient evidence that other endocrine tumors had been carefully

ruled in or out by adequate screening procedures. A previous report had suggested that one of every five patients with an ulcerogenic tumor of the pancreas will have a second adenoma.

We have observed several interesting families afflicted with the familial variant of MEA (Wermer Syndrome). In one of these families, the grandfather had a duodenal ulcer, four sons had evidence of ulcer as well as hyperparathyroidism, two daughters had suggestive evidence of hyperparathyroidism (i. e., kidney stones), and two of the four sons had proven ulcerogenic tumors which required total gastrectomy, in addition to removal of their parathyroid adenomas. For several years, we have been very carefully studying the children of this group, and already an insulin-producing beta cell adenoma has developed in the 13-year-old daughter of one of the brothers with the proven ulcerogenic tumor. At the time of surgery, two beta cell tumors were found and removed. Dr. John Minton of our Department of Surgery has recently completed a chromosomal analysis of each of 32 members of this family, but was unable to find any significant changes.

There has been considerable debate in the literature about the pros and cons of total gastrectomy when an ulcerogenic islet cell tumor is verified at the time of operation. We have continued to advise total gastrectomy, perhaps being influenced in part by the more than 15 years survival of one of our first two patients. This lady had a total gastrectomy in the fall of 1954 and as recently as March of this year, her weight was well above the ideal, approximating 150 pounds. At the time of her original operation, there were metastases found in regional lymph nodes, but no evidence of spread to the liver. Ten years later a cholecystectomy was performed and a biopsy of the tail of the pancreas carried out. There was no evidence of malignancy found at that time, but a small benign adenoma within the tail of the pancreas was verified microscopically. It is of interest that this patient had two normal deliveries, six and eight years after her total gastrectomy, and within the past several weeks she was hospitalized again and a panhysterectomy for fibroids carried out. This prolonged survival despite the presence of metastases is consistent with the observations of Friesen that a number of patients who have had all their stomach removed experienced complete regression of the metastases[12] . In our experience, however, we have not seen metastases disappear when they've been extensive about the celiac axis or to the liver. More recently, Friesen and McGuigan have been monitoring serum gastrin levels in patients with metastatic ulcerogenic tumor who have undergone total gastrectomy. Perhaps the very satisfactory experience with our original patient has unduly influenced us to continue to recommend this radical procedure. On the other hand, Dr. Ellison wrote a few years ago that a recurrent ulceration rate of about 57 per cent could be anticipated if any acid-secreting mucosa was retained in the presence of an ulcerogenic tumor[13] . This was based on the observation that these tumors are multiple in about 75 per cent of the cases, malignant in at least 66 per cent and metastatic in about 40 to 50 per cent. While it is true that a few dramatic "cures" have resulted after the removal of a solitary ulcerogenic tumor either in the wall of the duodenum or in the pancreas itself, some of these patients have later developed difficulty[14] . The literature would indicate that the end result, including morbidity and mortality, may be better after total gastrectomy than after repeated lesser procedures, some of which may need to be carried out within the immediate postoperative period of the previous surgery. We have little evidence that these tumors respond to radiation therapy or to chemotherapy, although Murray-Lyons and associates recently reported that malignant islet cell tumors may be successfully controlled by the use of Streptozotocin[15] .

A review of the more than 600 reported cases in our Islet Cell Tumor Registry has

confirmed that approximately 30 per cent of the patients with a gastrin-producing tumor with gastric hypersecretion associated with a fulminating ulcer diathesis have an associated diarrhea (usually steatorrhea); while another 6 per cent have hypersecretion and diarrhea, without ulcer. It would appear that the diarrhea results from the large volume of acid gastric juice flowing into the small bowel with mucosal irritation, and neutralization of the pancreatic enzymes, as well as a direct stimulating effect of the excessive, tumor-produced gastrin.

Within a few years after the original presentation of the ulcerogenic islet cell tumor syndrome, others began to call attention to another, watery, type of diarrhea associated with islet cell tumors in the absence of peptic ulceration. Priest and Alexander, of England, and Verner and Morrison of the United States, reported patients with watery diarrhea and severe hypokalemia, in whom peptic ulceration was absent[16,17]. Murray, of Seattle, in 1961, confirmed the presence of achlorhydria in a 49-year-old man with profuse diarrhea, hypokalemia and a non-insulin-producing islet cell adenoma[18]. Matsumoto and Longmire in 1966 suggested that the disease be called "pancreatic cholera"[19]. The next year, Marks, of Capetown, identified it as the WDHA syndrome— the acronym being formed from the first letter of the prominent symptoms (Watery Diarrhea, Hypokalemia, Achlorhydria)[20]. On April 18, 1968, we presented evidence before the American Surgical Association supporting the concept that the humoral substance produced by diarrheogenic non-beta islet cell tumors is secretin. These observations were based on extensive clinical and laboratory studies of two female patients with the classical features of the diarrheogenic syndrome[21].

These patients were both married women, 24 and 47 years of age. The younger patient had had cyclical diarrhea for four years. The second patient had almost continuous watery diarrhea for a period of nine months. Both had dangerously low potassium levels despite intensive replacement therapy and achlorhydria which could be overcome by histamine stimulation. At the time of surgery on the younger woman, a large tumor in the mid-portion of the pancreas was found and removed. A very large, distended gallbladder was an impressive and unexpected finding. Bile was aspirated from this gallbladder as part of a study of the etiology of gallstones. An analysis of this bile by Dr. Ronald Tompkins showed that despite the fact the bile was quite dilute, it contained 2½ times the normal amount of chloride and 4½ the normal amount of bicarbonate, the normal values having been established many years previously by Ravdin[22]. Of the known choleretic substances, only secretin had been previously shown to have such an effect on bile. Beginning with this secretin-like choleresis, we started collecting as much evidence as possible to verify our theory that the large, encapsulated tumor removed from the patient was elaborating secretin.

It was not possible to obtain a positive bioassay from extracts of the larger pancreatic tumor using the secretin bioassay preparation of T. M. Lin. However, a positive response for secretin was obtained from extracts of the 218 grams of hepatic metastases removed from the second patient who was treated at Emory University Hospital by Dr. J. Richard Amerson. Using mongrel dogs as test animals, the diarrheogenic tumor extracts were compared with pure natural and synthetic secretin, injected in amounts of 25 units. The extracts of the hepatic metastases elicted a classic secretin-like pancreatic response on several occasions. There was a seven-fold increase in the volume of pancreatic juice, an increase in the bicarbonate concentration and a decrease in the enzyme concentration as measured by pancreatic juice amylase and total protein. Of the control substances, including pancreozymin, glucagon, gastrin pentapeptide, histamine, serotonin and prostaglandin El, only the pure natural and synthetic secretin preparations produced a

similar response.

A comparison of the known actions of secretin with the findings in these two patients suggested that secretin is the diarrheogenic hormone being produced by these non-beta islet cell tumors of the pancreas.

Both patients had gallbladders which were tensely dilated with dilute bile, chemical analysis of which demonstrated paradoxically elevated bicarbonate and chloride concentrations. This evidence was supported by the finding of hypochlorhydria in both patients which was overcome after histamine stimulation. Furthermore, in the one patient in whom the tumor was removed, the hypochlorhydria was replaced in several days by rather high gastric acid values, clearly implicating the tumor as secreting a substance which inhibited gastric secretion.

The implication that certain islet cell tumors of the pancreas can produce secretin in excessive amounts and cause a clinical syndrome should be no more unexpected than the same findings for the antral hormone, gastrin. The polypeptide secretin has been known to exist since the work of Bayliss and Starling in 1902, but was not synthesized until 1967 by Bodanszky, Ondetti and associates [23,24] Actually, both gastrin and secretin were known first as "chemical messengers" and it was not until the Croonian Lecture by Starling in 1905 that they were given the name hormone [25] . Now, more than 60 years later, these two original hormones have been tied together with clinical syndromes associated with non-beta islet cell tumors of the pancreas.

Within the past six weeks, we have treated another patient with the non-beta islet cell tumor diarrheogenic syndrome which has reaffirmed our belief that secretin is the etiological factor. The patient, a 45-year-old man, had 10 to 20 profuse watery stools a day for one year which were associated with a stool loss of 5 to 6 liters, severe hypokalemia and severe kidney impairment. He was first admitted to our Psychiatric Hospital because of personality changes and then was transferred to the Clinical Research Center as a potential case of secretin-producing tumor. After his fluid and electrolyte imbalances were corrected and the blood volume restored, he was operated upon through a generous, inverted-U incision. At the time of operation, a large tumor involving the left half of the pancreas was found and resected. He had a very large gallbladder from which bile was aspirated. The chemical findings discovered in the first two cases were once again verified. In addition to the pancreatic tumor, he had a golf-ball sized cortical adenoma of the left adrenal gland and an olive-sized pheochromocytoma in the right adrenal gland. The occurrence of three different adenomas in a single patient emphasizes, once again, that the finding of one endocrine tumor makes it mandatory to search for others since this will happen in one-third to one-fourth of the cases.

This man had immediate cessation of the diarrhea with a return of normal bowel function after surgery. The previous daily replacement of 170 mEq of potassium each day was no longer required after the first postoperative day. One of the most convincing factors implicating secretin in this case was the prompt return of hydrochloric acid by gastric analysis within 24 hours after removal of the tumor. The previous basal achlorhydria by overnight measurement was replaced by 36 mEq/L of free hydrochloric acid.

Chemical analysis of the gallbladder bile revealed bicarbonate and chloride concentrations that were characteristic of a secretin-like effect; the same was true for the bile which was aspirated from the common bile duct at the time of surgery. We were disappointed that the Lin bioassay of tumor extracts prepared by the method of Jorpes* have not shown the classic pancreatic or biliary responses to secretin. On the other hand, Dr. Samuel Cataland was able to detect 120 microunits/mg of *immunoreactive secretin* in the same tumor extracts, as compared to 0 microunits/mg in autopsy pancreas and liver, villous

adenoma and normal lung[26].

It appears noteworthy that so far *only* metastatic diarrheogenic tumors have yielded a secretin-like response in the bioassay preparation. Only time will tell whether or not the method of extracting the tumors or perhaps a low hormonal content in the tumors have accounted for our failure to obtain a positive secretin bioassy response from the solid pancreatic tumors.

In an effort to determine the mechanism of watery diarrhea in diarrheogenic syndrome, Dr. Avram Kraft of our Institution has studied the effects of purified gastrointestinal hormones (pure natural secretin, gastrin I, pentagastrin, cholecystokinin-pancreozymin) and acid extracts of diarrheogenic and ulcerogenic tumors and normal liver and pancreas on active solute-solvent transport [27]. Using a standardized rabbit gallbladder preparation, he found that both natural secretin and extracts of two diarrheogenic tumors inhibited mucosal-to-serosal fluid absorption. No other substances tested had the same effect. He concluded that the watery diarrhea, in all probability, results from a combination of two actions, namely, the hypersecretion of bile and pancreatic juice, and the inhibition of active membrane transport of fluid and electrolytes.

Verner and Kraft have both recently reviewed the available world literature to determine the major clinical and laboratory findings of the diarrheogenic syndrome[28,29]. Both authors were impressed by the high incidence of associated hypercalcemia (60 per cent) which in four cases reverted to normal only after excision of the pancreatic tumor, and control of the diarrhea. In view of the recognized hormone multipotential of these islet cell tumors, a logical possibility to be considered is the ectopic production of parathormone or a parathormone-like substance as the cause of this finding. Another frequent finding associated with the diarrheogenic syndrome was altered glucose metabolism, termed "pseudodiabetes," in about one-third of the cases. It is our opinion that when a surgeon is confronted by a patient with the classical WDHA syndrome, a suspected parathyroid adenoma and/or high blood sugar levels, he should assign the highest priority to exploration of the pancreas for a diarrheogenic tumor.

Summary

Non-beta islet cell tumors have been confirmed to exert a strong functional influence on the gastrointestinal tract, either in the form of a fulminating ulcer diathesis, a fulminating diarrhea, or a combination of both. The ulcerogenic non-beta islet cell syndrome, first described in 1955, consists of massive gastric hypersection, a fulminating ulcer diathesis and a gastrin-producing non-beta islet cell tumor. Other prominent features are severe enteritis (watery diarrhea or, more commonly, steatorrhea) and polyglandular adenomatosis, which in some cases is hereditary. The more recently defined diarrheogenic non-beta islet cell syndrome consists of severe watery diarrhea, hypokalemia, hypochlorhydria and a high incidence of associated hypercalcemia and hyperglycemia. It appears reasonable to assume that these clinical findings result from islet cell tumor production of the hormone, secretin. Half a century after their original description, therefore, the first two gastrointestinal messengers, secretin and gastrin, have been implicated as the cause of two distinct clinical syndromes associated with non-beta islet cell tumors of the pancreas. That these tumors can elaborate secretin as well as gastrin is not surprising since they share a common cell of embryologic origin with the antrum and the duodenum, where these hormones are

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Written Communication, J. E. Jorpes, 3-28-69. The tumor is cut into fine pieces immediately after excision and extracted 3-5 minutes in 5 volumes 0.2% HCL. Otherwise, tissue enzymes, which to a certain extent are active even in frozen samples, will destroy the secretin peptide. After boiling, the acid extract is cautiously neutralized to pH 4 and quickly frozen until used.

normally produced. Tumors of the pancreas have also been found to elaborate insulin, glucagon, ACTH, MSH and serotonin, singly and in combination, as well as a possible parathormone—like effect on serum calcium levels.

Conclusion

In closing my remarks about our hobby of the pancreas and the first hormones, I am reminded of a statement made by Dr. Francis Glisson of London: "That concerning the sweetbreads (which can be interpreted as either the pancreas or the thymus, but we refer to it here as the pancreas), we declare nothing for a certainty, only we suspect that obstruction, if not a Scirrhus may sometimes invade that part. But this we leave to the enquiry of others." The pancreas remains a challenging organ whose pluripotential must never be overlooked in everyday clinical practice.

It would be a signal honor for anyone to initiate this distinguished honorary professorship, and I am indeed proud to be the first. As an old friend and long-time admirer of Fred Kredel, I can't improve on what Dean Kenneth Lynch wrote in 1961, shortly after Dr. Kredel's untimely death: "The life and work of Dr. Kredel . . . may well make him a legendary figure in the story of the Medical College of South Carolina. What he did and what he stood for were not buried with him" (Fig. 3).

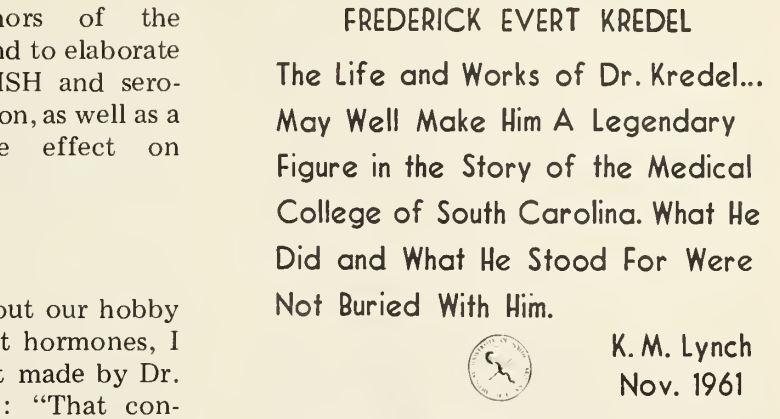


Fig. 3. Eulogy of Frederick E. Kredel by K. M. Lynch.

Copies of a bibliography of 29 references may be obtained from the Editor of the Journal of the S. C. Medical Association, 80 Barre Street, Charleston, S. C. 29401.

Erratum

In the article Leptospirosis in Man and His Best Friend by James M. Hayes, M. D., Carl A. White, M. D., and Allen H. Johnson, M. D. which appeared in the April issue of the *Journal* the authors failed to give credit to the S. C. State Health Laboratory for running the initial serum tests on the patient presented.

INTERVIEWING THE ADOLESCENT

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The family physician is a logical source of help for the troubled adolescent and his family. More than one-half of the teenagers admitted to this unit in 1968-69 were referred by family physicians. Continuing contact with the adolescent has helped us evolve guidelines for effective interview techniques with young people. The follow-ign observations are offered as suggestions which might assist the communication between the physician and his adolescent patient.

Guidelines for Talking with and Listening to the Teenager

(1) It probably will not be his idea to see you! The chances are that a crisis will catapult the teenager into your office and it is unlikely that his parents will give him an opportunity to "decline" the visit. Some of the teenagers who come to my office do not learn of the intended visit until the day of the appointment. Rarely does one of my young patients think that he is coming for a "check-up" of his physical health. The family physician is sometimes asked to see a misbehaving teenager under the pretense of a "physical" examination. Such a request is unfair manipulation of the physician and might destroy any chance of his helping. Agreeing to such deceit will destroy not only the child's trust, but will also prove to the parents that their physician is not always truthful.

When I see a teenager for his first visit I like to ask him: "Whose idea was it for you to come see me? Did your parents ask you how you felt about seeing me?" These questions are good "openers" since they imply that the teenager's opinions are important. It will surprise the teenager to learn that an important adult seeks *his* opinion. If the unwilling patient indicates that he *objects* to seeing me, I tell him that I can understand why he wouldn't like it and that I doubt that I would like being treated as a child. Having accepted the reality of his resentment, I point out: "On the other hand, it's just possible that I can be of some help to you since your parents seem to respect my opinions." The family physician might not find resentment in his adolescent patient since he has most probably treated him since childhood. Since the physician is an adult the teenager might think of him as a member of the enemy camp. His peers have cautioned him to trust *no one* over thirty. I point out to the adolescent that whereas he feels he has no reason to trust me, he also has no real good reason for not trusting me. I am willing to *earn* his trust and I tell him that.

(2) See him without his parents' presence. I prefer seeing the parents first since they are the "plaintiffs" and since one must know the problem if it is to be solved. The statement, "your parents have talked with me about the problem as *they* see it—I have asked to talk with you so that I can understand the problem *as you see it*" will let the teenager know that his physician's mind is not closed. The following remarks will help the teenager confide in his physician: "I intend to respect your confidence just as I would any other patient. What we discuss here is between you and me unless it involves something that might harm you, your

*Director of the Adolescent Division, Department of Psychiatry.

parents or others. I won't tell them anything against your wishes unlesss I *must*. If I *must* tell them something important, I'll give you the chance to tell them first." The adolescent would expect his physician to make such remarks.

(3) Be informal! Ask him what his friends call him and then address him as a friend. Be relaxed and informal, but *be what you are!* Don't try to be a teenager!

(4) Let him talk. Don't expect the teenager to "get right down to business." Don't expect him to "tell all" in one out-pouring. He might enjoy "educating" you about carburators or the local high school's football team. It is possible that his father *always* knows more than he does and he might enjoy "explaining" something to someone as intelligent as you. Many teenagers find difficulty in talking to an adult. They will shrug their shoulders and answer questions with "I don't know." I seldom accept such an answer and usually ask him to be more specific. Does he mean "I am without knowledge", "I'd rather not say" or does he mean "I am afraid to answer"? If it appears to me that he is reluctant to talk voluntarily about his problem I specifically ask him about the complaints his parents have made. Almost invariably he will state his view of the problem. Try to see the problem through *his* eyes as well as those of his parents.

(5) Recognize the difference between thought and behavior. Let him *express* his thoughts and opinions. His ideas are liable to be idealistic since he does not have 40 years of experience behind him. As a physician your political orientation is probably conservative. Don't be alarmed if he sounds anti-establishment, radically liberal or even atheistic. His comments on world politics have probably generated much heat at home. He will be pleasantly surprised if you refuse to belittle his opinions. He does not insist that you agree with him. He probably *hopes* that you *won't* agree. If the teenager says: "I think they ought to legalize LSD," it does not necessarily mean: "*I* am going to start *taking* LSD!"

(6) Let him express his feelings. Don't ask him to discuss anger-provoking situations in a calm, cool and relaxed fashion. Let him show his anger, but don't let him curse you or demean you. Let him know that you want to learn about his feelings and that he must not be ashamed of any of his feelings. There is a good possibility that his parents have told him that anger is bad and that he must not feel such an emotion.

It is impossible to never *feel* anger. The image which some parents show their children is that of nothing but sweetness. Unsuspecting children see cool, calm and collected parents and think, "There is something wrong with me—Mother and father don't feel anger. I feel anger, so I am bad!" Some children see abundant parental anger while being told that anger should not be felt.

Getting the adolescent to discuss his feelings is one of the major hurdles in therapy. Many things perplex the teenager, but nothing confuses him more than his feelings.

(7) Seek out his assets. It is because of the teenager's defects and liabilities that his parents seek help. The physician learns of his patient's liabilities during the interview with the parents. An effort should be made to elicit *all* of the parents' complaints concerning their child. It is indeed rare for the parents of my younger patients to voluntarily mention the assets which they see in their child.

During the interview with the teenager I ask him this question: "Tell me, Joe, what sort of person *are* you?" Quite a few teenagers will react in amazement that an adult would think of him as a *person*, much less care about a description. They frequently respond with requests for clarification. "Tell me what *you* think of *you!*" helps him begin his answer. His description of himself will help us understand our patient. Rarely will the teenager have a clear concept of himself. Evolving this concept of self is one of the basic tasks of adolescence. In describing himself the adolescent patient might indicate that he does not know himself very well. My next

question is invariably this: "What kind of person do your parents think you are—how do they feel about you?" The answers to this question can shed considerable light on the parent-child communication as well as the conflict.

(8) Be honest! Call a spade a spade. The adolescent would never say: "Call a spade a spade!" Teenagers have altered this old truism to now read, "tell it like it is!" So we must! *Lies ought not be called "fibs" and thefts* ought not be described as "taking things." And the teenager who has "told a lie" ought not be called a *liar* if he has been tricked into lying or compelled to lie. A teenager who was capable of making above average grades described his two "C's" and three "D's" to me as "not too good." I agreed that they certainly were *not* in "excess of good." I suggested that a description of "disgraceful" would be more correct. He agreed.

(9) Try to avoid lectures. The chances are excellent that he has heard enough of these from his parents. Tell him what you think and feel, but skip the "don't you realize" approach. This can be a difficult assignment for any adult, even the physician. Long dissertations on "how-tough-it-was" and "Why-when-I-was-your-age—" will terminate adult-adolescent communication quicker than anything else. Such remarks are heard by the teenager as follows: "Let me tell you how *weak you* are— let me tell you how *my* generation *invented* virtue— let me tell you how *my* generation preferred hardships to comfort—*we* volunteered for deprivation so as to build character."

Summary

The family physician can be of great help in resolving adolescent problems. Where conflict exists between the adolescent and his parents the physician can help re-establish communication in the family. The foregoing guidelines are offered as suggestions which can help the physician develop special techniques of interviewing the adolescent.

Transplantation of Liver in Man—R. Williams, Brit Med J 1:585-592 (March 7) 1970

The author presents the overall results for 17 patients treated by orthotopic liver transplantation. Seven patients died within six days after surgery, but in the remaining ten the initial results were satisfactory, as shown by the return of liver function to normal in a patient with complete biliary obstruction, awakening from deep hepatic coma on the second day after transplantation, fall in the titer of serum mitochondrial antibody in primary biliary chirrhosis, and correction of hyperparathyrodism in a patient whose primary liver tumor was secreting parathyroid hormone. Two patients were operated on recently and two others were alive on the tenth and eleventh month after transplantation. One of these patients had cirrhosis with chronic encephalopathy and hepatoma, the other had a primary hepatoma without underlying cirrhosis. Liver biopsies have shown virtually normal histological appearances and albumin/synthetic rates measured by the ^{14}C carbonate method were normal.

Blood Gases: Mechanisms, Methods, and Relevance to the Surgical Patient— Peter Hairston, M. D. (Charleston) Amer Surg 35:606, 1969.

Arterial blood gas and pH determinations afford a sensitive index to the alterations in gas exchange and acid-base equilibrium that may be attendant upon the diverse pathophysiologic states encountered occasionally in surgical patients. These indices have proven to be extremely valuable indications of physiologic function, readily available to the physician by virtue of the new instruments that furnish reliable determinations of blood gas and hydrogen ion concentration.

The article represents an attempt to clarify the confusing terminology associated with the subject of acid-base equilibrium and to encourage a greater number of surgeons to an application of blood gas determinations in their clinical practice. An understanding of the relationship between gas exchange and transport and acid-base equilibrium and the clinical conditions in the surgical patient is an essential requisite to complete patient care.

SOUTH CAROLINA HEART ASSOCIATION
CARDIOVASCULAR CASE OF THE MONTH

ORTHOSTATIC HYPOTENSION

C. Warren Irvin, Jr., M. D.
The Columbia Clinic
Columbia, South Carolina

Orthostatic hypotension is a perplexing and sometimes difficult problem to treat. Although not rare it certainly is not a disorder that the physician sees daily. Unfortunately, however, unless thought of it may be missed as the patient may be examined only in the recumbent position, and if so, the important diagnostic point is not elicited. The following case and brief "casettes" illustrate some of the interesting aspects of this condition.

The patient is an 80 year old woman who came in for her routine annual physical examination, having been followed in our office for about 15 years. Her predominant complaint on this occasion was considerable weakness. She complained of being so weak on standing up that she could not get out of her house and had difficulty getting to the doctor's office. This problem had been present intermittently since 1963, or some six years. It had gradually gotten worse and in 1968 when seen in our office was her most important complaint. Effort was made at that time to treat her with dexamethasone but because of "a funny sensation" she discontinued it after a day or two and the matter was not pursued with her at that point. Her other symptoms were totally nonspecific. She complained of fatigue, weakness even when she was lying down, generalized mild arthritis, and some low abdominal discomfort and bladder pain.

Family history and past history were unremarkable. She had had a cholecystectomy and pancreatitis in 1955. She had been thought to be depressed on one occasion in the last few years and antidepressants such as Tofranil seemed to make her worse. Review of systems was unremarkable.

Physical examination: BP was 150/80mmHg lying, 100/80 standing, in both arms. General physical examination was normal otherwise.

The patient was encouraged to come into the hospital for a trial on therapy. Laboratory data in the hospital revealed a normal urinalysis, and hemoglobin of 13.8 grams. White count was 7,320, with 49 lymphs, 40 segs, 7 monocytes, 2 eosinophils, 2 basophils. Serum electrolytes, total protein, albumin, calcium, alkaline phosphatase, bilirubin were all normal. BUN Was 22, fasting blood sugar was 105, serum transaminase was 20, cholesterol 310 and uric acid 5.8; urine culture showed no growth, IV pyelogram was normal.

The electrocardiogram was entirely normal except for very minimal flattening of the T waves in some leads, quite nonspecific in character. These changes had been present previously.

X-ray film of the chest revealed a normal size heart and repeated films showed no evidence of congestive heart failure or change in heart size.

Course in the hospital: The patient's hospital course was one of improvement. After a day or two in the hospital she was started on fludrocortisone acetate tablets (Florinef Acetate) 0.1 mg b. i. d. along with sodium chloride 6 grams a day. With this medication she showed gradually increasing blood pressure. During the medication phase, her blood pressure in the hospital would show a dramatic fall, with the systolic reading dropping well below 100 with only a minimal change in her pulse rate. After several days on treatment her blood pressure was 140/80 lying, and 110/80 standing. This blood pressure range was maintained for several days and during this time she gained five pounds in weight, had some heaviness in her chest, and slight shortness of breath. X-ray films of the chest and electrocardiograms showed no change, but diuretics did produce a five pound weight loss. By the fifteenth day of treatment the patient's blood pressure was 180/100 sitting and 160/100 standing. Because of the increasing blood pressure and the recurrent edema, the medication as well as the salt was gradually reduced and she was given further doses of diuretics, with diuresis on each occasion. Her

weight stabilized within a range of about three pounds and she was finally discharged from the hospital after about three weeks of taking Florine 0.1 mg daily and sodium chloride 1 gram three times daily. She was instructed to continue to weigh herself and take furosemide (Lasix) 40 mg for any five pounds weight gain.

Following discharge she has continued well over the first year and has virtually no complaints. Initially the blood pressure rose to as high as 180/100 and some minor fluid retention and occasional ectopic beats occured. On reducing the Florinef to 0.05 mg daily and eliminating the salt she became stable. (She no longer needs the diuretic.)

This case is that of an 80 year old woman whose complaints were primarily those of weakness. She did not emphasize the orthostatic component of her problem and actually although this was known to be present in our office for a number of years, it was not recognized by us for the significant part it was playing in her symptoms until after treatment was instituted. Since she has been on medications in the last year, she feels better than she has at any time in a number of years and is quite happy about her present condition.

No effort was made to perform studies concerning salt metabolism or aldosterone excretion in this patient. She was treated empirically with salt-retaining adrenocorticosteroid hormones and sodium chloride as described by Shear. [1] This patient responded dramatically to treatment with this drug and sodium chloride and actually we produced mild hypertension and some water retention initially. This did not turn out to be a significant problem and was easily controlled both with diuretics and with reduction of the fludrocortisone as well as later discontinuance of the salt. The author in this article indicates that on a number of occasions the steroids do not work effectively without sodium chloride. We did not actually perrform the experiment in this case but it is notable that after the patient's problem was corrected sodium chloride was no longer necessary in the longterm treatment.

Four other cases seen recently give added insight into the problem. A 52 year old man fracture his arm while taking antihypertensives without BP control in the upright position. A 50 year old woman surreptitiously took medications for a year and four months and it was not until this time that we could prove that her orthostatic hypotension was due to large amounts of anti-depressants and sedatives. A 75 year old lady was seen in a convalescent home because of general debility following surgery. She was actually found to have severe orthostatic hypotension which probably began prior to surgery and was made worse by prolonged bedrest, sedatives and antidepressants. She did not improve until Florinef thereapy was started. An 81 year old man with multiple myeloma obtained relief from his orthostatic hypotension with Florinef therapy which was of distinct help in managing his case even though it is apparently not going to prolong his life.

The case report and the "casettes" demonstrate some of the problems involved in orthostatic hypotension. Probably the most common cause of hypotension is iatrogenic and the most frequent drugs incriminated are those of antihypertensives and antidepressants along with sedatives. Two of the "casettes" above demonstrate this type of problem. In both cases difficulty was encountered in arriving at a complete diagnosis of the patient's symptoms, either because of failure to recognize the need to take the blood pressure in an upright position while using these drugs or failure to pursue strongly enough the possibility of the surreptitious use of medications when presented with a problem of this type. Prolonged bedrest has been known for years to cause transient orthostatic hypotension and in one of the cases above the possibility that the prolonged bedrest following surgery may have been playing some part is to be considered; however, it seems more likely that the patient actually had hypotension prior to surgery and this condition was made worse by treatment with medications and bedrest. The fact that the patient still requires medication some year after relief of her symptoms to keep her blood pressure normal suggests that she has the idiopathic variety which has been made worse with medications. The case of multiple myeloma is a perplexing one. There is no report as far as I know of multiple myeloma causing orthostatic hypotension. Other diseases, such as diabetes, tabes dorsalis, pernicious anemia, and neurological problems were not present. Regardless of the basic mechanism of his difficulty and the long range poor outlook of his primary illness, his management has been greatly enhanced by use of medications and it has actually allowed him



Vell, Dr. Cunningham! I was just telling Herbert should talk to you about my allergy. irst my nose starts to tickle and..."

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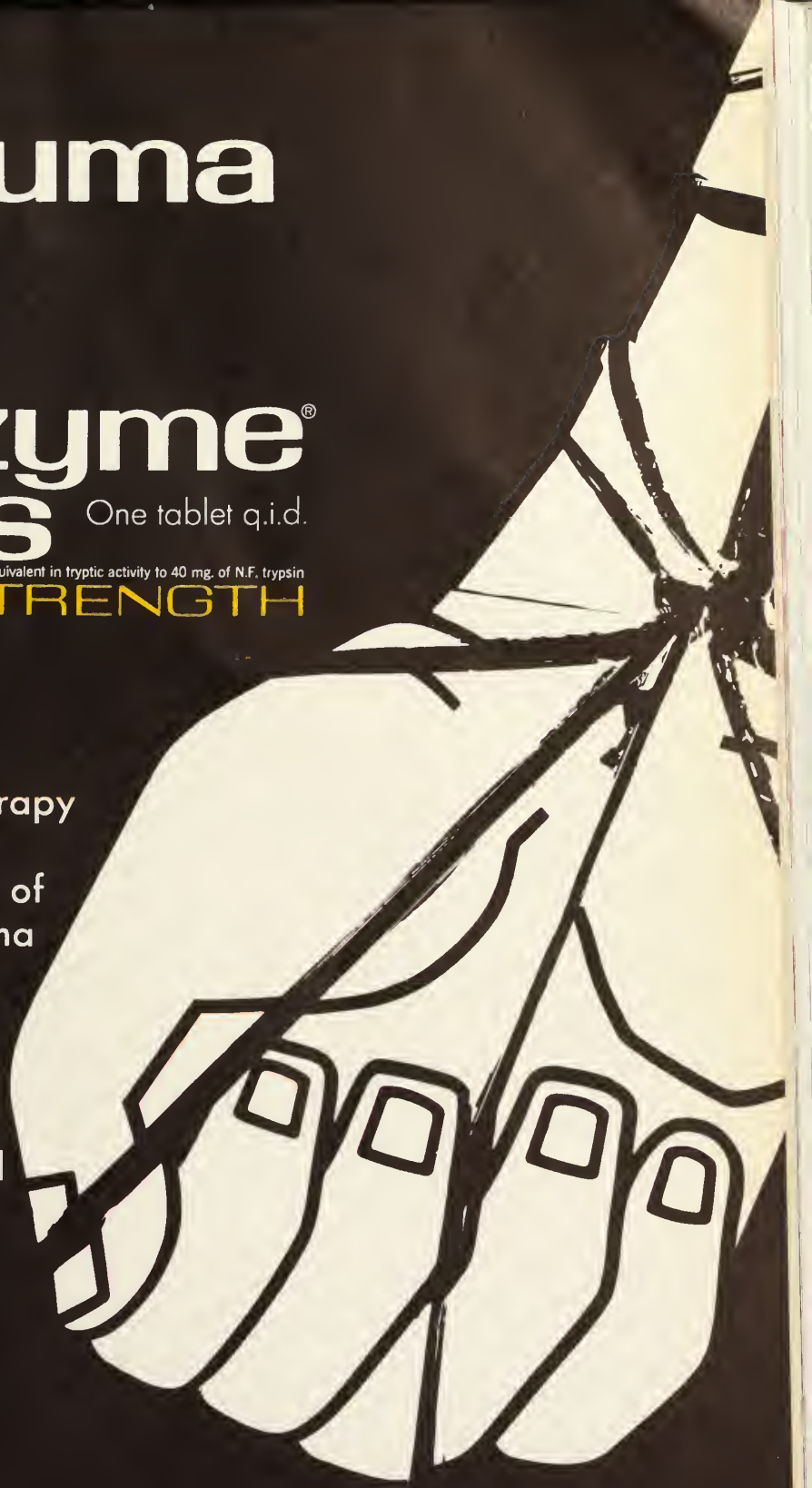
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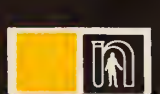
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to go home rather than to remain in the hospital.

Treatment of this condition in the past has been notoriously poor unless the cause is iatrogenic. The use of elastic stockings and pressure suits are always difficult for a patient to manage— particularly in one who has problems in getting up to get the contrivances in place. The use of Florinef and salt in two of our cases produced dramatic and most gratifying results. In both cases the medication can be reduced after some period of time and the sodium chloride eliminated altogether. No side effects from the longterm administration of these steroids has been noted. The amount of ambulation, activity, and exercise that the patient under treatment is able to do also probably breaks the "vicious cycle" of bedrest producing further orthostatic hypotension and helps the patient to a useful and pleasant existence.

Summary: The case report with several "casettes" demonstrating some of the vagaries and difficulties of orthostatic hypotension is presented. The iatrogenic variety can be treated by withdrawal of medications. The idiopathic variety responds, at least in some cases, very gratifyingly to therapy. Diagnostically the most important thing is to keep the disorder in mind and not to fail to take the blood pressure standing in patients who complain to "weakness."

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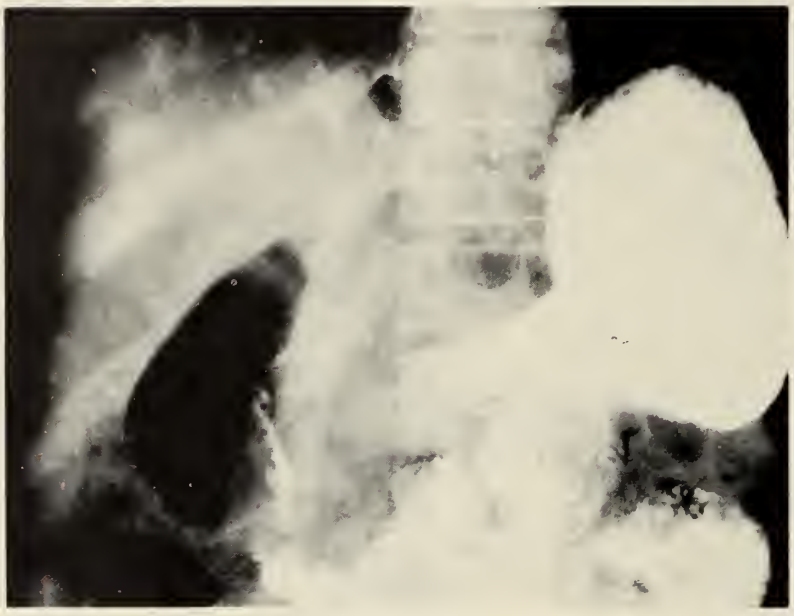
Diagnostic Use of Amniotic Fluid, E. O. Horger, III and Donald L. Hutchinson, (Charleston) J Pediat 75:503, Sept. 1969.

Amniotic fluid analysis for the assessment of fetal health and disease has evolved from a recognition of the dynamic equilibrium involving the fetus, its mother, and its surrounding fluid. The most important clinical indication for amniocentesis and amniotic fluid analysis is the management of pregnancy in sensitized Rh negative women. The degree of fetal hemolysis can be determined by spectrophotometric scanning of the fluid. Visual appraisal of amniotic fluid color by amnioscopy, and determintion of acid-base composition and estriol concentration may detect fetal distress. Fetal maturity can be assessed by the histochemical study of cells found within amniotic fluid and by measurement of its creatinine concentration. Familial chromossomal disorders can be detected by karyotypes made from amniotic fluid cell culture. Biochemical assays of multiple enzyme activities within fetal cell cultures can uncover familial metabolic disorders. Continuing investigations undoubtedly will lead to further diagnostic uses of amniotic fluid.

E. O. H.

X-RAY FILM OF THE MONTH

S. Elliott Puckette, Jr., M. D.
Charleston County Hospital



The patient was a sixty year old mildly diabetic male, admitted to the hospital with a one-day history of epigastric and right upper quadrant pain, associated with profuse vomiting. The right upper quadrant was tender to palpation but soft, with normal bowel sounds. The patient's temperature was 100.4 F. A KUB was normal. Three days later, the GI series from which the above film was taken was performed. At this time the patient was toxic, with tenderness and rebound tenderness in the right upper quadrant, and an 18,000 WBC count with 82% segmented neutrophils.

One will note the pear-shaped collection of gas in the right upper quadrant, representing a gas-distended gallbladder. This is a case of acute emphysematous cholecystitis. At surgery the following day, the gangrenous gallbladder was found to be distended by gas. There was an adjacent abscess in the peritoneal cavity, the latter also being demonstrable on the film. *Clostridium perfringens* was cultured. A cholecystectomy was performed with a satisfactory post-operative course.

Acute emphysematous cholecystitis, in contrast to ordinary cholecystitis, more often affects males. They are ususally elderly and quite often diabetics. The patients generally appear sicker and more toxic than with ordinary cholecystitis. As a rule it requires 24 to 48 hours for a demonstrable amount of gas to accumulate, first seen in the walls. Air-fluid levels are common. Obstruction of the gallbladder outlet is the initiating mechanism in this form, so that gas is only rarely seen in the biliary tree. This differentiates emphysematous cholecystitis from a biliary-enteric fistula. In addition to the clostridium group, other gas producing organisms, such as *E. coli*, aerobic and anaerobic streptococci have been cultured.

President's Page



The annual meeting of the American Medical Association and the Auxiliary met under friendly skies, politically and weather-wise in Chicago. The House of Delegates, operating under excellent leadership in the reference committees and under the able leadership of the Speaker in the general session, acted upon many vital matters affecting organized medicine.

Concern was expressed regarding delivery of medical care to the disadvantaged. To show leadership and to offer a pilot program the AMA is furnishing two mobile units to provide medical care and education in a Chicago impoverished ghetto area.

The probelm of Continuing Medical Education was discussed in depth. Leadership in this field will be offered by AMA.

The AMA reiterates its support of sound, existing mechanisms, such as public grievance and adjudication committees, and utilization and peer review committees which societies have found effective for the consideration of fees and medical costs.

The problem of abortions was high in priority on reporting by the press. The subject also occupied a large segment of time in the Reference Committee and also on the floor of the House of Delegates. A verbatim report of the Resolution passed is as follows:

"*Resolved*, That abortion is a medical procedure and should be performed only by a duly licensed physician and surgeon in an accredited hospital acting only in conformance with standards of good medical practice and after consultation with two consultants of medical competence and within the Medical Practice Act of his State; and be it further

Resolved, That no physician or other professional personnel shall be compelled to perform any act which violates his good medical judgment. Neither physician, hospital, nor hospital personnel shall be required to perform any act violative of personally-held moral principles. In these circumstances good medical practice requires only that the physician or other professional personnel withdraw from the case so long as the withdrawal is consistent with good medical practice;"

A third Resolution that was proposed by the Reference Committee to the House was rejected. The rejected Resolution read as follows:

"*Resolved*, That the American Medical Association will consider no physician who adheres to the above and who is otherwise qualified, to be in violation of the policies of the AMA as long as his practice conforms to the applicable state or federal laws."

Concern was expressed in the meeting of state presidents and in the House of Delegates regarding the rampant injustices to physicians in the area of medical liability. In certain states insurance coverage is being denied certain physicians or priced at an exorbitant premium level.

The American Medical Association is doing a good job for the profession and certainly deserves support and praise.

Ben N. Miller, M. D.
President

Editorials

The New Editor

With the September issue, after nearly 17 years of occupancy, the editor rises from his chair to make room for a new incumbent. The old editor has found his work interesting and satisfying albeit sometimes frustrating and discouraging. Most editors of state medical journals are not formally trained in journalistic work and must learn the trade as they go along. That was the situation with the retiring editor. He hopes he has made the journal reasonably satisfactory to the members of the Association.

Our new editor is Dr. R. Buckland Thomas. Dr. Thomas was born in Nachitoches, Louisiana in 1931 and attended the University of Illinois College of Medicine where he received his B. S. and M. D. degrees. He served a rotating general internship at Emanuel Hospital in Portland, Oregon and continued residency training in psychiatry at Walter Reed General Hospital. He was chief of the department of Neurology and Psychiatry at Fort Benning, Ga., from 1961 to 1965. Dr. Thomas was in a private practice of psychiatry in Columbia until 1967 when he became associate director of the William S. Hall Psychiatry Institute.

He is a diplomate of the American Board of Psychiatry and Neurology, a fellow of the American Psychiatric Assn., a member of the Southern Psychiatric Assn., AMA, South Carolina District Branch A. P. A.; South Carolina Medical Assn., and the Columbia Medical Society.



R. Buckland Thomas, M.D.

How Does Your Journal Rate?

The editor of this and similar journals, musing in their synthetic ivory towers, are often curious to know whether or not the readers consider their journals in any way satisfactory to their tastes. Comment comes very seldom. Apparently the only way to obtain criticism of any sort is to make a statement which is considered offensive by some person or group.

Recently the *Ohio State Medical Journal* conducted an extensive inquiry into the opinions of its readers. Nearly 10,000 questionnaires were mailed out, and 5,400 were returned—a 55 per cent response, extraordinary for almost any questionnaire.

Some years ago this *Journal* attempted a similar inquiry which received very scant attention. The editor had no clear idea what his readers thought. While the Ohio State Journal is a much larger and presumably more financially secure publication than is our own state journal, there might be some general lines of comparison and, possibly, the answers from Ohio might be similar to what might be given to South Carolina.

Comments on the Ohio journal varied from "excellent" to "atrocious". It seemed obvious that certain of the critics felt that that journal should be able to equal the national publications which reach very large audiences. They did not seem to be aware that a small state medical journal cannot attract the type of scientific material which journals of national circulation obtain, nor can a journal

directed to a medical association composed of perhaps 30 different branches of medicine attempt to provide material which might appeal to all of them. This is a job for the specialty journals. The true function of a state journal should be to serve as a forum for the membership of its state association and as a place in which the scientific contributions of its readers might find publication, even if they are not earth shaking. In this way it serves in a sense as an instrument of post graduate instruction.

The ex-editor of this journal has often wished for criticism—good or bad. He is grateful to members of the Association who have assisted him in keeping the *Journal* going. He feels sure that the new editor would be happy to have suggestions and comments which might help to make the journal a better publication.

Queer Activities in Appalachia

It is seldom that planning do-gooders are caught with their ulterior motives showing by their own admission. When such an occasion arises, those of us on the outside should derive what amusement and enlightenment we can from the spectacle, since such benefits for the public are singularly lacking from the ultimate design. Such an incident occurred in Greenville in June.

Some years ago the American Academy of General Practice decided that for those variously called general practitioners, family doctors, or the backbone of the medical profession to be *au courant*, there should be a Board of Family Practice, to which able and ambitious practitioners could apply, and by which, following examination, they could be certified as bona fide specialists. Such a board has been created, and approved by the AMA.

Prior to the Board, in the Greenville General Hospital we had residents in general practice, who rotated through various services and received certificates. Their training was on the wards and in the clinics. Such residencies have been declared obsolete, and it is stated that now there shall be family practice residents, who cannot be qualified under the old procedure, which provided training in essentially emergency or episodic care of the individual; but that the new program shall provide training in long-term comprehensive medical care of family groups, with emphasis on out-patient preventive care of superior quality. By definition at least fifty per cent of such training shall be given at other than hospital facilities. More specifically, the training shall be provided in family primary-care centers strategically located in communities. The concept includes team approach to the delivery of medical care, broadening the definition of health care to include physical, mental, social and environmental health, molding the public and private sectors of medicine, and other principles designed to represent a basic reorganization of health care structure and resources, inherent in which are group enrollment and pre-payment in full.

The organizational chart required a page 8 x 12 inches. Patients are to be found by outreach teams and screened by physician assistants and others, so that physicians will see only those patients considered to need their superior skills. Most care will apparently be on an appointment basis since "certain arrangements will be made to accommodate those persons who appear at the center requiring acute or emergency treatment."

Enrollment and pre-payment procedures are an essential part of the program, but have not yet been developed. The original center, planned for upper Greenville County, in a community which formerly had two physicians but now has none, has an "actual target population of 10-15,000." The area is about fifteen miles from Greenville by a paved U. S. highway.

Although pre-payment is stressed, the projects are not planned to be self-supporting, now or ever. The present estimate for three centers for one year is $2,499,639; for five years, $12,498,194. On the basis of 10,000 patients per center, the cost is said to be $85.60 per patient per year, or $342.40 per average family of four. In rural centers, the families will pay

70.1% of the cost; in urban centers, 66.4%. Patients from different income levels will pay different amounts. The unpaid balance will be paid by "government," or "Project," organizations better known as Medicaid or Appalachia, both meaning ultimately that vanishing national resource, the taxpayer. It is planned to have numerous centers throughout Greenville and Pickens Counties, and later other counties.

Only primary care will be given in the centers. Secondary care involves hospitalization, with or without a secondary physician, i. e. specialist. Tertiary care is hospital care with a specialist in command. All this will be on a group or team basis, since solo practices are to be done away with. Enrollment is open to all; this is distinctly not a poverty program, and the centers, at least at first, are not to be in ghetto areas.

Well anyway, when the matter of the "family practice modules" first came up, it was presented to me by our director of medical education as the means for having approved family practice residencies, so that we could provide more general practitioners for Greenville, which we need. Now hear this! - "Phase I includes the establishment of two primary centers in Greenville County within the first year and one center in Pickens County at the beginning of the second year." Phase II "is completely dependent on the success of Phase I. If successful, a detailed plan will be developed within the first three-year period to establish a network of primary care centers within the two-county area and, conceivably, throughout the six-county region."

"The ultimate ideal and goal will be the involvement of all primary care physicians and secondary physicians (specialists) into a group practice program with the development of a pre-payment plan for complex, comprehensive health coverage."

This plan had been approved by the South Carolina Appalachian Health Policy and Planning Council, and Governor Robert E. McNair, and application has been made to Washington for funds to implement in 1970, before the matter, entirely by chance, came to the attention of the medical societies of the counties involved. Representatives of these societies and of the 13th District Pharmaceutical Association, and others, appeared before the SCAHPPC on May 31st, and protested so strongly that the Council withdrew its approval of the plan, and its application for funds, and available Appalachia funds were allocated elsewhere for the year. At the regular meeting of the Greenville County Medical Society on June 1st, the program was condemned, and the president instructed to appoint a committee to present an alternative plan for improved medical care in this region.

The proposal has only been sidetracked, however, and more will surely be heard of it, in view of the prominence of the persons and the amount of the federal funds involved. Also, according to the Charleston County *Scribe* of April-May, 1970, a variant of the plan has already been implemented in Charleston.

The Nixon Administration notifies its military enemies in South Vietnam when they may expect to be attacked. We physicians in private practice have received our notice.

Thomas Parker, M. D.

QUIDNUNC

Social Characteristics and Patient Expectations Toward Mental Hospitalization, Arch Gen Psychiat 20: 457-469 (April) 1969.

Send your mind to the hospital and leave that old body at home.

ABSTRACT OF MINUTES OF COUNCIL

Columbia, South Carolina — Wednesday, July 1, 1970

Council of the South Carolina Medical Association met at the Blue Cross-Blue Shield Headquarters, at 2:20 p. m. on July 1, 1970.

The following committee appointments were made:

Committee on Scientific Program: Dr. A. H. Hursey, Hartsville, and Dr. Walter Roberts, Columbia, will succeed Dr. James S. Garner, Mullins, and Dr. Dana C. Mitchell, Jr., Columbia, respectively.

Committee on Legislative Activities: Dr. Leonard W. Douglas, Belton, will succeed Dr. Donald C. Kilgore, Greenville. Dr. Hugh H. Wells, Seneca, will be asked to serve as Chairman, and Dr. Kilgore will still serve in an advisory capacity. Dr. D. Strother Pope, Columbia, will succeed himself.

Committee on .Cooperative Activities: Dr. S. Hunter Rentz, Columbia, will succeed Dr. Robert S. Solomon, Moncks Corner, S. C. Dr. William C. Cantey, Columbia, will succeed himself.

Committee on Medical Education:

Dr. W. Klauber, Greenwood and Dr. James P. Galloway, Columbia, will succeed themselves.

Committee on Medical Services: Dr. Loren F. Parmley, Jr., Spartanburg, will suceed Dr. Sol Neidich, Beaufort. Dr. Edmund R. Taylor, Columbia, will succeed himself.

Sub-committee on Emergency Medical Care: Dr. Charles D. Riddle, Jr., Greenville, Dr. Max S. Rittenbury, Charleston; Dr. Edward C. O'Bryan, Jr., Florence; and Dr. Emmett M. Lunceford, Jr., Columbia.

Sub-committee on Insurance Program: Dr. Joseph P. Cain, Jr., Mullins.

Committee on Mental Health: Dr. James B. Galloway, Columbia, and Dr. R. R. Mellette, Jr., Charleston, will suceed themselves.

Committee on Public Relations: Dr. Joseph I. Waring, Charleston, will succeed himself. Dr. Buckland Thomas, Columbia, will succeed Dr. Robert L. Solomon, Charleston.

Committee on Industrial Medicine: Dr. H. Leon Poole, Spartanburg, and Dr. Allen R. Slone, Hartsville, will succeed themselves.

Committee on Maternal Health: Dr. Heyward Hudson, Greenville, will succeed Dr. R. H. Hand, Anderson. Dr. Phillip P. Clayton, Bamberg, and Dr. Richard Y. Westcoat, Lancaster, will succeed Dr. William W. King, Jr., Newberry and Dr. Samuel B. Moyle, Walhalla.

Committee on Infant and Child Health: Dr. David C. McLean, Florence, will succeed Dr. Marion Caughman, Orangeburg. Dr. Stanton L. Collins, Conway, will succeed Dr. Samuel P. Fleming, Spartanburg. (Should Dr. Casper E. Wiggins, Greenwood, resign from the committee, Dr. Robert C. Brownlee, Jr., Greenville, will succeed him.)

Memorial Committee: Dr. Buford Chappell, Columbia, will succeed Dr. J. Richard Sosnowski, Charleston. Dr. Samuel O. Cantey, Jr., Marion, will succeed himself, and will be requested to serve as temporary chairman.

Committee on Historical Medicine: Dr. Leon Banov, Jr., Charleston, will succeed himself. Dr. Chapman Milling, Columbia, will succeed Dr. Richard Allison, Jr., Columbia.

Committee on Constitution and By-Laws: Dr. William H. Hunter, Clemson, and Dr. J. Gavin Appleby, St. George, will succeed themselves.

Sub-Committee Advisory Committee to Woman's Auxiliary: Dr. Thomas Parker, Greenville, will succeed Dr. Davis D. Moise; Dr. William P. Turner, Greenwood, will succeed Dr. Peter C. Gazes, Charleston; Dr. Lucius M. Cline, Jr., Greenville,Dr. David D. Moise, Sumter, Dr. Ben N. Miller, Columbia, Ex Officio and Mr. M. L. Meadors, Florence, Ex Officio.

Committee to serve Pharmaceutical Members on Category of Illnesses & Drugs: Dr. Robert Brownlee, Greenville, will succeed himself; Dr. Berryman E. Coggeshall, Cheraw, and Dr. Ira B. Horton, Orangeburg, will succeed themselves. Dr. Lawrence Jowers, Columbia, will succeed Dr. William W. Valloton, Charleston. Dr. John D. Gilland, Conway, will succeed himself.

State Board of Medical Examiners: Dr. Charles N. Wyatt, Greenville, and Dr. William O. Whetsell, Orangeburg, will succeed themselves.

Dr. D. Strother Pope moved the approval of the Peer Review Committee appointed by Dr. Miller. Dr. Tanner seconded. Following is the committee:

Committee Member	District
George C. Brown, Jr., Walterboro, S. C.	1
Paul T. Hopkins, Columbia, S. C.	2
E. Mims Mobley, Greenwood, S. C.	3
Henry G. Howe, Jr., Greenville, S. C.—V. Chm.	4
Allen P. Jeter, Winnsboro, S. C.	5
Edward L. Proctor, Conway, S. C.	6
Wallis D. Cone, Sumter, S. C.	7
James H. Gressette, Orangeburg, S. C.	8
Michael F. Patton, Spartanburg, S. C., Chm.	9

Dr. Harold P. Hope moved that Dr. Robert H. Burley, Clemson, be appointed to the Peer Review Committee. Motion passed.

Dr. Atwill gave a most comprehensive report on the organizational meeting of the Peer Review Committee. He was very favorably impressed with the attendance. The next meeting of the Committee was scheduled for July 24, 1970.

Mr. Jack Meadors advised that a physician's individual insurance would cover any action taken either independently or as a member of a committee. However, SCMA should be insured as an organization. Dr. Kilgore moved that Mr. Meadors obtain $300,000 insurance coverage for SCMA as soon as possible. Dr. Tanner seconded.

Council approved the committee appointed by Dr. Miller to negotiate a "Fee for Service" policy with the Blue Shield Corporation, which committee is as follows:

OBG Soc. Dr. H. W. Fouche, Columbia. Surgical Soc. Dr. Daniel W. Davis, Jr., Columbia, Opthamology & Otolaryngology Soc. Dr. Joseph B. Workman, Jr., Columbia, Psychiatry, Dr. James B. Galloway, Columbia, Radiology, Dr. Stephen E. Puckette, Jr., Summerville, Internal Medicine Dr. Charles R. Holmes, Columbia, AAGP Dr. Halstead Stone, Chester, Pediatrics Dr. John Rheney, Jr., Orangeburg, Urology, Dr. Jack Evans, Spartanburg, Pathology, Dr. C. H. Magruder, Greenwood, Orthopedics Dr. John Keith, Spartanburg, Anesthesiologist to be appointed.

It was decided that the SCMA Convention be held in the Convention Center at Myrtle Beach and that the Ocean Forest Hotel be the Convention Hotel for social functions.

Dr. Miller congratulated Mr. Meadors on behalf of Council for having been elected President of the National Association of Medical Executive Secretaries.

Dr. Jameson introduced Mr. Sandow of Blue Cross- Blue Shield who spoke to Council regarding his opinion of the imminence of socialized medicine in the not too distant future and asked the advice of Council as what the Blue Shield Board should do to meet the rapid changes taking place. HMP legislation is still in the formative stage but when such legislation is passed, Mr. Sandow urged SCMA to take a good look at it to see what can be done.

Dr. Miller moved that Mr. Meadors and Dr. Hope look into the matter and bring back to Council their thoughts on how these problems can be dealt with. Passed.

Mr. Sandow offered office space in the Blue Cross- Blue Shield building for the use of SCMA as its Columbia headquarters and also the use of a WATT line, said space to be immediately available.

Dr. Stone moved that the following Resolution of the S. C. Chapter of the American Academy of General Practice be endorsed by SCMA and that the secretary notify the Department of Public Welfare of such endorsement. Dr. Tanner seconded.

"WHEREAS, The members of the SCA of GP are interested in providing medical care to Medicaid recipients of this State.

WHEREAS, It is our desire to see the Medicaid program operate in such a manner that necessary medical care to all recipients can be provided within the means of the State.

WHEREAS, We realize, that with the deficiency that occured for the fiscal year 1969-1970 in the operation of Medicaid, curbs on the operation are a necessity.

WHEREAS, We endorse the majority of the provisions to curb the expenditures as published in *The State*, Thursday, June 18, 1970.

WHEREAS, The successful operation of this program depends on the full cooperation and understanding between the practicing physicians and the Department of Public Welfare.

WHEREAS, The preventing of full freedom of choice of physicians will be unnecessary interference with the care of the patient and may ultimately breach this understanding and trust.

WHEREAS, We feel that if the recipient must choose each month a physician for the month, there is interference. This is not a freedom of choice.

WHEREAS, This concept would work a hardship on patients whose regular physician is away from his practice for part of a month and would prevent adequate coverage by another 'on call' physician.

WHEREAS, This procedure would bring about unnecessary correspondence between physicians and the Department of Public Welfare.

WHEREAS, The same control as to 'Doctor Shopping' may be brought about by a four part perforated and numbered voucher. (This voucher to be attached to claim when request for payment is made by the physician.)

WHEREAS, This, or like, procedure would permit freedom of choice and at the same time authorize treatment and limit the unnecessary utilization by patient and physician.

THEREFORE, BE IT RESOLVED, That the Academy oppose the concept of 'doctor for a month' and request substitution in its place a voucher system.

RESOLVED FURTHER, That the Academy will encourage its members to resist this

unnecessary interference into the lives of Medicaid recipients."

The Mediation Committee wants a directive from Council regarding insurance coverage of its members. Mr. Meadors will notify them that their individual policies will be sufficient coverage and that SCMA is obtaining coverage.

Dr. Kilgore moved that a committee composed of Dr. Hope, Dr. Miller, Mr. Meadors and Dr. Pope be empowered to hire an assistant to Mr. Meadors and to procure office space in Columbia and that this be accomplished within the next 30 days if possible.

After much discussion about the office space—offers from the Columbia Medical Society and the Blue Cross-Blue Shield—Dr. Parker moved that we thank Mr. Sandow for his offer and instruct our committee to go ahead and procure office space downtown.

Dr. Atwill moved that the committee independently select its own office space. Motion passed.

Dr. Hawk moved that Council reconsider Dr. Atwill's motion and that it be amended by stating that if suitable space is not available for an amount that is considered reasonable by this committee that this will not preclude the acceptance of the offer of the Columbia Medical Society. Motion carried by a vote of nine for and five against.

Dr. Miller moved that a statewide committee be appointed to work with the Columbia Medical Society in exploring the feasibility and location of a permanent home for SCMA. Dr. Kilgore seconded. This will be done at a later date.

Dr. Waring asked Council its pleasure about the third volume of the History of Medicine which is about ready for the printers. It is estimated that SCMA will have to underwrite the publication for about $1,500. Dr. Hawk moved that SCMA underwrite the cost of publication for $1,500. Motion passed.

Dr. Parker and Dr. Hawk reported on their attendance at the AMA Convention and asked for clarification of their instructions as delegates. Dr. Atwill moved approbation for the actions of all delegates to AMA and Council's wholehearted support. Dr. Kilgore seconded.

Dr. Tucker Weston reported on the misbehavior of spectators at one of the meetings he attended at AMA convention.

With one minor correction, Dr. Kilgore moved the approval of the minutes of the May meeting at Myrtle Beach. Dr. Johnston seconded.

D. STROTHER POPE, M. D.
Secretary

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REPORT OF THE CHAIRMAN OF THE COUNCIL OF THE S. C. MEDICAL ASSOCIATION 1969-1970

I am happy to submit this report on behalf of the Council which is devoted to the welfare of the S. C. Medical Association. I am sure all of us have been conscious of the changing times in medical practice and the business of the S. C. Medical Association. We have seen the advent of many things this year that the Medical Association has to cope with. We have seen the freezing of fees for doctors serving Medicare Patients and we have seen the rise of Medicaid in this state and also the financial difficulties of this program. Council has been involved in these and other programs and members of Council have been involved in ascertaining how the Medical Association would be involved. We have seen the increased activity of the Regional Medical Program and the Comprehensive Medical Planning Program. Some of us have literally gone to school to try to know about these programs and how we as physicians are involved. From time to time we have sent information through the Association's state office concerning these programs.

As Chairman of Council, I have obtained permission for Councilors to effect liaison between Blue Shield and Members of the S. C. Medical Association. This is in operation now and we believe many small problems can be solved before they become large and in this connection, a concentrated effort is being made by Blue Shield at this time to bring fee profile and members up to date and correct some of the low fees that cause unhappiness on the part of the doctors.

In the beginning of this year we had a number of things confusing us. You will recall at the time of the last State meeting that a Osteopathic Bill was in discussion. You will also recall that there was a difference of opinion as to just how the Association should react to this bill. Immediately following the last State Meeting a committee including the Chairman of Council was delegated to go to the Legislature concerning this Osteopathic Bill. We went to be told by the legislators what we were to expect with no chance of negotiating on our part. This was after a division in our ranks and I am sure our prestige hit a new low at this time.

Also at the beginning of this year Council had a mandate from the House of Delegates to upgrade the services of the State Association office by obtaining practically 100% of Mr. Meadors time as Executive Secretary. This we did and I can believe you have been conscious of Mr. Meadors' efforts in many ways. We looked forward to increased dues beginning January 1, 1970 and with these increased dues, finding a Public Relations man to work out of Mr. Meadors' Office. The right man has not been found to date and discussions have taken place during our all day session yesterday on the type of Public Relations man we want and also the type of lobbying that we wish at the State Legislature. Other discussions concerning where this man would make his headquarters and the State Association Office as a whole were also discussed during this meeting yesterday.

Speaking of public relations, I have permission of Council to make a recommendation to this body that each County Society give urgent priority to planning a meeting shortly after the election with the Legislative Delegation from your County—not to ask favors but to dine or entertain them in any manner you think best and seek to discuss with them problems of mutual interest in your County. We believe this is the best public relations possible.

You will recall that the President of our Association named a committee to work with the Governor in preventing abuses in Title 19 (Medicaid Program). This committee has asked Council to take up during this State Meeting a recommendation from Dr. Rivers, Director of the Department of Public Welfare that a Utilization Review Committee be set up in each of the 10

Health Districts of South Carolina. Dr. Rivers stated that these Utilization Review Committees should have been established at the onset of Title 19 and therefore he thinks it important that the state medical association pass on this request as soon as possible. Your Council has been studying this proposal since our first meeting during this state meeting, and it may be at the end of this report I will have further information for you.

The Council has been conscious of the fact that our Medical Districts number nine and the state planning districts are somewhat different from the Medical Association Districts. The planning districts are 10 in number, designated by the Governor. In discussing Regional Medical Program and the Comprehensive Medical Program an effort has been made to live with the two designations of districts. Council has, however, appointed a committee to make recommendations for the changing of our Medical Districts to correspond with the Governor's Districts. This committee has been waiting for the Governor's districts to be made permanent by the Legislature before they make recommendations. It could be that the Planning District could be changed by the next Governor.

I would like to report that Council at its all day meeting considered a number of things of importance to you. Some you will hear by way of Resolutions from Council but there are a few things I will mention to you at this time.

The Board of Directors of Blue Shield asked that we select a Peer Review Committee to help in adjudicating fees.

The Industrial Commission asked for a Peer Review Committee on fees and the DPW asked for a Peer Review Committee organized on the basis of the Governor's 10 medical districts. They asked for recommendations of 15 physicians from each district. They will select 5 men. These 3 requests took considerable time in discussion and a committee from Council was appointed to try and coordinate these 3 requests and others that may be requested. This Committee will make their study during this Meeting and we may have some information for you before we adjourn.

Dr. Cain, of the Insurance Committee, got consent of Council to include interns, residents and students in the Insurance Program.

I would like to state that your Councillors have been very diligent in carrying out their duties and are interested in doing any amount of work necessary to carry out the duties of their office.

I would like to thank the many people in the Association, especially the President, Members of Council, and Mr. Meadors for the many courtesies shown me during this year. It has made my year a very rewarding one for me.

Harold P. Hope, M. D., Chairman

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358, second year $12,496 and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, P. O. Box 119, Columbia, South Carolina 29202.

EQUAL OPPORTUNITY EMPLOYER

REPORT OF THE SECRETARY
D. STROTHER POPE, M. D.

Mr. President, this will be brief. I am addressing primarily the delegates, for my appeal goes to them. *Please* get your reports as your Chairman of Committee or Sub-committee, please get your reports in to me and to the Editor of the Journal in time so that they can be published and not have to be read. If you youngsters think this is a long session, you should have been here when we heard eight and ten page reports from the State Board of Medical Examiners, the State Board of Health, and other groups that had tremendous functions. If you will get these in to us, it will save us a lot of time in doing this.

Secondly, I would ask you as you have your county or district elections, send us your officers, your delegates and as you appoint your Liaison Committee on Legislative Affairs — you know we have requested that each county or district society set up a Liaison Legislative Committee to work with the State Committee and with your Executive Secretary — if you would send those to us, it would be a tremendous help in disseminating information and in rallying the forces. If you think you are wasting your time in doing this, ask any member of the ophthalmological group who appeared in opposition to the optometry bills before the House and Senate and they will tell you that their organization and concentration was a tremendous factor in having these Bills referred back into committee. We can help ourselves if you will let us have this information.

Now, the last thing, I am the custodian of pins that are awarded by this organization to men who have been members in good standing for 50 years. Jack's office is going through his records trying to pinpoint these very deserving people and it should be an honor for our Society and the individual county or district society to award these deserving servants with a pin. However, we do not have all the information and I would like to ask each county society and/or district society to go through its records and if you have deserving people who have served or been members for 50 years, please get this information to me and I will get the pins to the people who will arrange for them to be presented to these individuals.

MEETINGS

"Disorders of Glucose Metabolism in Children",the second Birth Defects symposium, will be held October 30-31 at the University of Florida College of Medicine, Gainesville. The symposium is being sponsored by the university's Institutional Division of Endocrinology and Metabolism and the National Foundation March of Dimes Birth Defects Center.

For more information write to Mrs. Betty L. Howard, Division of Postgraduate Education, J. Hillis Miller Health Center, Gainsville, Fla. 32601.

The University of Miami School of Medicine, Division of Otolaryngology, is presenting a postgraduate course in ENT for the Family Practitioner. The course will be held November 13-14, at the Sheraton Four-Ambassadors Hotel in Miami. The course director is Fredric W. Pullen II, M. D.

The world's largest meeting of surgeons, the 56th annual Clinical Congress of the American College of Surgeons, will be held in Chicago, Ill., October 12-16. Headquarters hotel will be the Conrad Hilton.

For registration forms write to: Mr. T. E. McGinnis, American College of Surgeons, 55 East Erie Street, Chicago, Ill. 60610.



Dr. James M. Hayes has announced the opening of his office for the practice of internal medicine at 315 Calhoun Street, Charleston. Dr. Robert E. Jackson of Manning has been certified by the American Board of Family Practice. Dr. Jackson is a member of the class of 1961 of the Medical University of S. C. He is chief of staff of Clarendon Memorial Hospital. Dr. Granville S. Way Jr. of Summerville, Dr. William S. Chapman of Myrtle Beach, Dr. George C. Duncans, of Spartanburg, Dr. J. Y. White of Bowman and Dr. Kendell O. Fields Jr. of Holly HIll have been re-elected to active membership in the American Academy of General Practice. Dr. Samuel E. Wood has opened his office for general practice of medicine at Goose Creek Shopping Plaza. Dr. Ralph P. Baker of Newberry has been named Newberry College Physician. Dr. Anthony L. Robbins has begun the practice of neurology at 184 East Bay Street, Charleston. Dr. J. A. Beck who completed his internship at Spartanburg General Hospital in July, has begun practicing medicine in Woodruff. Dr. Beck is a native of Augusta. Fairfield Home at Ridgeway has announced the opening of an office of Medicine staffed by Robert B. McCloy, M. D. and Evan W. Dixon, M. D. Dr. Max S. Rittenbury of Charleston was elected chairman of the State Emergency Medical Services Advisory Council at the group's first meeting. Dr. Stanmore E. Reed, who had a general practice in Columbia in 1965-67, is re-entering medical practice there. Dr. Reed has been chief resident in obstetrics-gynecology at Baptist Memorial Hospital in Memphis, Tenn. He associated with Dr. Strother Pope at 1116 Henderson St., Columbia. Dr. William S. Ogden of the Shriners Hospital for Crippled Children has been awarded a grant from the Research Project Fund of the Southern Medical Association. Dr. Maxwell Ezell Cline has announced the opening of his office for the practice of internal medicine at 315 Calhoun St., Charleston. Dr. S. H. Shippey, of Rock Hill has announced plans to retire from the active practice of internal medicine this fall.

WANTED: Physician with interest in Mental Retardation to serve as Medical Director. Modern offices, liberal personnel policies. Must be licensed or eligible for licensure in South Carolina. Salary $18,000 to $22,000 depending upon qualifications. Write or apply to Dr. Edward A. Rondeau, Superintendent, Midlands Center, 8301 Farrow Road, Columbia, South Carolina, 29203. (formerly Pineland, A State Training School Hospital.)

The Tennessee Valley Medical Assembly will be held at Read House, Chattanooga, October 19-20. For more information write to Don J. Russell, M. D., chairman, 107 Interstate Building, Chattanooga, Tenn. 37402.

The AMA's 30th Congress on Occupational Health will be held September 30-Oct. 1, 1970 at the Century Plaza Hotel in Los Angeles.

REPORT ON THE AMA MEETING IN DENVER

Thomas Parker, Delegate

Different meetings have atmosphere which differs from meeting to meeting. The impression that remained with me following the meeting in Denver was one of foreboding. Of course how a feeling of impending danger affects you depends upon how you look at things. It moves some people to resignation, others to increased effort.

At meetings we pick up information from various sources; not only what we observe at the meeting, but what we learn from people who have been at other meetings.

The first thing that I have learned was of a meeting of the National Pharmaceutical Association in Washington in October, 1969 at which representatives of HEW stated that they must cut health care costs. They said the easiest way to do this was to stop new hospital construction and close some beds. They said England had stood this for twenty years, and if the British could stand it, we could too.

The next had to do with the speech of Dr. Roger Egeberg at Oklahoma City about November 15 to the Chamber of Commerce, under the auspices of the Oklahoma City Medical Society. Dr. Egeberg stated that a national health system for the United States is just a matter of time, maybe six or seven years. In response to questioning about how opposition to this would be done away with, he said that opposition would be disarmed by semantics, by substituting the term "universal"" for "compulsory".

Incidentally, Dr. Egeberg also came to Denver to, as he said, take the temperature of the AMA. In Denver he stated that this country was unable to handle Medicaid at the present time because of a shortage of institutions and manpower, so that it should be slow about taking on a "national comprehensive health insurance plan".

The day before the convention opened, November 29, there was an all day session on Peer Review. Speakers represented NABSP, BC, The Health Insurance Council, HEW, and the San Joaquin Foundation, the speaker for the latter being the only M. D. on the panel. The symposium was summarized by Mr. Tom Tierney of HEW. He stated that he was glad doctors are accepting the idea of control; that control is no longer a dirty word. He said there is going to be control of the medical profession, and he hopes that doctors will control themselves through Peer Review, rather than be controlled by others. It's nice to get a preview like this from the horse's mouth.

On November 30th, Dr. Dorman gave the president's address on the subject of "The Significant Seventies". He stated that the profession must become more patient-oriented. He said we must have a federal department of health, and that we must accept totally new and different ideas and support them, provided they will work.

He said the AMA must devise workable systems for providing health care and that it must strengthen the AMA to make it relevant to all physicians. Prior to this time he said that AMA had appealed primarily to physicians in private practice, which alienated teachers, researchers, military doctors, doctors in V. A., etc. He also said there must be devised ways to attract students, and so forth. He said students have more empathy for their patients than practicing doctors. Doctors must learn to communicate the fact that care of the patient is our primary concern. He also stressed the need to cultivate the various ancillary groups. It is obvious that this talk belittles practicing physicians, as do other AMA releases from time to time.

Dr. George W. Graham, president of the American Hospital Associations, stated that

he was sorry administrators have the trouble with doctors that they do have. He said his greatest problem was how to involve doctors more in hospital administration instead of having doctors airily state that finances were the concern of the administration.

Mrs. John M. Chenault, president of the AMA Auxiliary, gave an interesting talk stressing the interest of the Auxiliary in active leadership in community health with the accent on youth. She stated that the goal for AMA-ERF contributions, which is 64% ahead of last year's level at this time, is $500,000 for next year. Later we learned that the research institute would have to be closed shortly for lack of funds (the alternative being a 40 to 50 dollar assessment per AMA member per year).

The House took a number of actions which can be summarized quickly.

1. Requested legislation to require that all prescriptions be labeled by name and size of contents.
2. Registered opposition to the compulsory use of federal prescription forms.
3. Urged that all matters concerning the medical profession be handled by direct negotiation between the government and the AMA.
4. Opposed the establishment of a school of health sciences under the auspices of the Department of Defense.
5. Urged increased support and expansion of diploma schools of nursing.
6. Resolved that marihuana is a dangerous drug, and that its sale and possession should not be legalized, and that there should be further research into its actions.
7. Condemned the matter in which the FDA removed drugs from the market without consultation with practicing physicians.
8. Requested the AMA to be sure that advertisements of psychotrophic drugs in its publications should not exceed their legitimate therapeutic indications. It was specified that sometimes psychotrophic drugs were useful in adverse reactions to environmental stress in the absence of mental illness.
9. Took a strong position against abortion on demand, thus reaffirming its previous position. In the committee the testimony was 12 to 1 against abortion on demand.
10. Referred back for further study a recommendation that the ownership of stock in corporations operating profit-making hospitals was ethical.
11. Urged intensification of meetings and dialogue with medical students, interns, and residents, preferably in conjunction with local chapters of SAMA.
12. Endorsed AMA's tax credit plan for voluntary health insurance.
13. Accepted a report from the Board of Trustees dealing with professional liability, malpractice suits, contingent fees of lawyers, and the statute of limitations. The crux of this matter was the conclusion that if possible we should endeavor to obtain the prohibition of lawyers serving in such suits on the basis of contingent fees. This would probably lessen the number of such suits greatly.
14. Urged doctors to beware of the extension of the "heart disease, cancer, stroke and related diseases" program by expansion of the definition of "related diseases". In Connecticut "related diseases" now includes the entire range of illness.
15. Accepted as legal the auditing of physicians office records dealing with Medicaid patients; but urged that action be taken to have the auditing done by means of peer review instead of by means of otherwise designated government agents. Incidentally, in New Orleans, the Council of Chiefs of Medical Staff by united action has limited review of hospital records to giving to third parties diagnoses and treatment only; in other words, government agents are not allowed to search the record in its entirety, which might reveal embarrasing facts about one's ancestors for example.
16. Urged legislation to prohibit indiscriminate release of names of physicians who have received Medicare or Medicaid payments.
17. Opposed federal licensure of physicians.
18. Opposed uniform "usual customary and reasonable" charges throughout the nation, contending charges varied from locality to locality.
19. Urged the Board of Trustees to make further efforts to have payments resumed to physicians in teaching institutions for services to Medicare patients.
20. Objected to the wording of notification by carriers to beneficiaries of alleged excess charges by physicians, and requested remedial action.
21. Asked HEW to specify the minimal benefits in insurance policies which by law would be acceptable to HEW in state programs; in order that the states could then obtain bids from competing insurance companies on standard and acceptable policies.
22. Encouraged the training of medical assistants in various categories. It was stressed, however, that in all probability these should be neither licensed nor certified, since they would have to work under the direct control of their employing physicians, and it would be unwise to give them a license to practice independently.

The report of the Himler Committee on Long-Range Planning resulted in the establishment of a Committee on Private Practice to be a committee of the Council on Medical Service. The Himler Report, lest you forget, is the report which adopted the World Health Organization definition of health as a state of total mental, physical and social well-being and not merely the absence of disease. It further stated that the AMA should undertake planning in all fields of activity along these lines, even though the medical profession possessed competence only in medical affairs, and not, for example, in civil rights or recreation. The Himler Report also recommended that the AMA cease using such provocative terms as "Fee for Service" and "Private Practice". There was a minority report by John Budd which found fault with some of the philosophy and considerable of the wording of the majority Himler Report. It has been hoped that a Council on Private Practice could be established; but a sub-committee could serve a very useful purpose if its members are so minded. The committee will consist of one trustee, five delegates, one member of SAMA and two AMA members at large.

There was considerable discussion of a proposal to seek modification of the draft law to recognize "service equivalence" for voluntary service in areas of need, urban or rural, in place of military service. The matter was discussed at length and was finally referred back to the Board of Trustees for further consideration. It was at least suggested that the AMA might regret authorizing compulsory federal service for other than military purposes, particularly in times of peace. During the discussion of this resolution, which was considered by the committee of which I was a member, Mike Smith, a student from the Medical School in Charleston stated that he had polled his class and that something like 68 of 72 were anxious to put in two years of federal service. They did not wish to put in four years, two military and two civilian; but had only no objection, but the desire to put in two years in an area of need.

The South Carolina Delegation submitted a resolution on proper terminology "medical care" and "health care". During many discussions on the floor these terms were used almost interchangeably, which is a serious error. The resolution was approved as submitted, and is quoted in full.

Whereas, good health has been defined by the World Health Organization as a state of total physical, mental and social well being, and not merely the absence of disease and

Whereas, The various news media and agencies of the federal government routinely blame the medical profession for the rising costs of health care; and

Whereas, The medical profession can in no significant way control the costs of health care as defined above, but only some aspects of the costs of medical care; and

Whereas, Some physicians and even the publications of the American Medical Association (PR Doctor, September-October 1969) when speaking of the problems and responsibilities of the medical profession use the erroneous expression health care when they should use the correct term medical care; therefore be it

Resolved, That the House of Delegates instruct the Board of Trustees to initiate at once remedial measures to clarify the meaning of the expressions "medical care" and "health care" and to assure their correct usage in all official publications of the American Medical Association; and be it further

Resolved, That such action be a continuing one under the direction of the Executive Vice President designed to correct the terminology of the lay press and enlighten the understanding of the public.

My committee considered two other very interesting reports. One was the report "T" of the Board of Trustees, which was a report on the Report of the Committee on Health Care of the Poor. Discussion took a couple of hours. The Committee recommended maybe twenty items. It recommended the establishment of neighborhood medical centers, with massive federal funding on a multi-year basis. The multi-year basis was necessary to get competent workers. It was stressed that it was essential to have acceptance by "consumer consultants" a "consumer consultant" being defined in questioning as someone who lived in the community and would be expected to use the center, and thus not an outside expert. It was pointed out that in some areas where there was no such acceptance, the facilities had been



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Beef	8.0	Hot Dog Bean	8.4
Chicken Broth	5.5	Pepper Pot	6.1
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Precautions: Mild leukopenia has been reported during Flagyl use; total and differential leukocyte counts are recommended before and after treatment with the drug, especially if a second course is necessary. Avoid alcoholic beverages during Flagyl therapy because abdominal cramps, vomiting and flushing may occur. Discontinue Flagyl promptly if abnormal neurologic signs occur. There is no accepted proof that Flagyl is effective against other organisms and it should not be used in the treatment of other conditions. Exacerbation of moniliasis may occur.

Adverse Reactions: Nausea, headache, anorexia, vomiting, diarrhea, epigastric distress, abdominal cramping, constipation, a metallic, sharp and unpleasant taste, furry or sore tongue, glossitis and stomatitis possibly associated with a sudden overgrowth of *Monilia,* exacerbation of vaginal moniliasis, an occasional reversible moderate leukopenia, dizziness, vertigo, drowsiness, incoordination and ataxia, numbness or paresthesia of an extremity, fleeting joint pains, confusion, irritability, depression, insomnia, mild erythematous eruptions, "weakness," urticaria, flushing, dryness of the mouth, vagina or vulva, vaginal burning, pruritus, dysuria, cystitis, a sense of pelvic pressure, dyspareunia, fever, polyuria, incontinence, decrease of libido, nasal congestion, proctitis, pyuria and darkened urine have occurred in patients receiving the drug. Patients receiving Flagyl may experience abdominal distress, nausea, vomiting or headache if alcoholic beverages are consumed. The taste of alcoholic beverages may also be modified.

Dosage and Administration: *In the Female.* One 250-mg. tablet orally three times daily for ten days. Courses may be repeated if required in especially stubborn cases; in such patients an interval of four to six weeks between courses and total and differential leukocyte counts before, during and after treatment are recommended. Vaginal inserts of 500 mg. are available for use, particularly in stubborn cases. *When the vaginal inserts are used* one 500-mg. insert is placed high in the vaginal vault each day for ten days and the oral dosage is reduced to two 250-mg. tablets daily during the ten-day course of treatment. Do not use the vaginal inserts as the sole form of therapy. *In the Male.* Prescribe Flagyl only when trichomonads are demonstrated in the urogenital tract, one 250-mg. tablet two times daily for ten days. Flagyl should be taken by both partners over the same ten-day period when it is prescribed for the male in conjunction with the treatment of his female partner.

Dosage Forms: Oral tablets . . . 250 mg.
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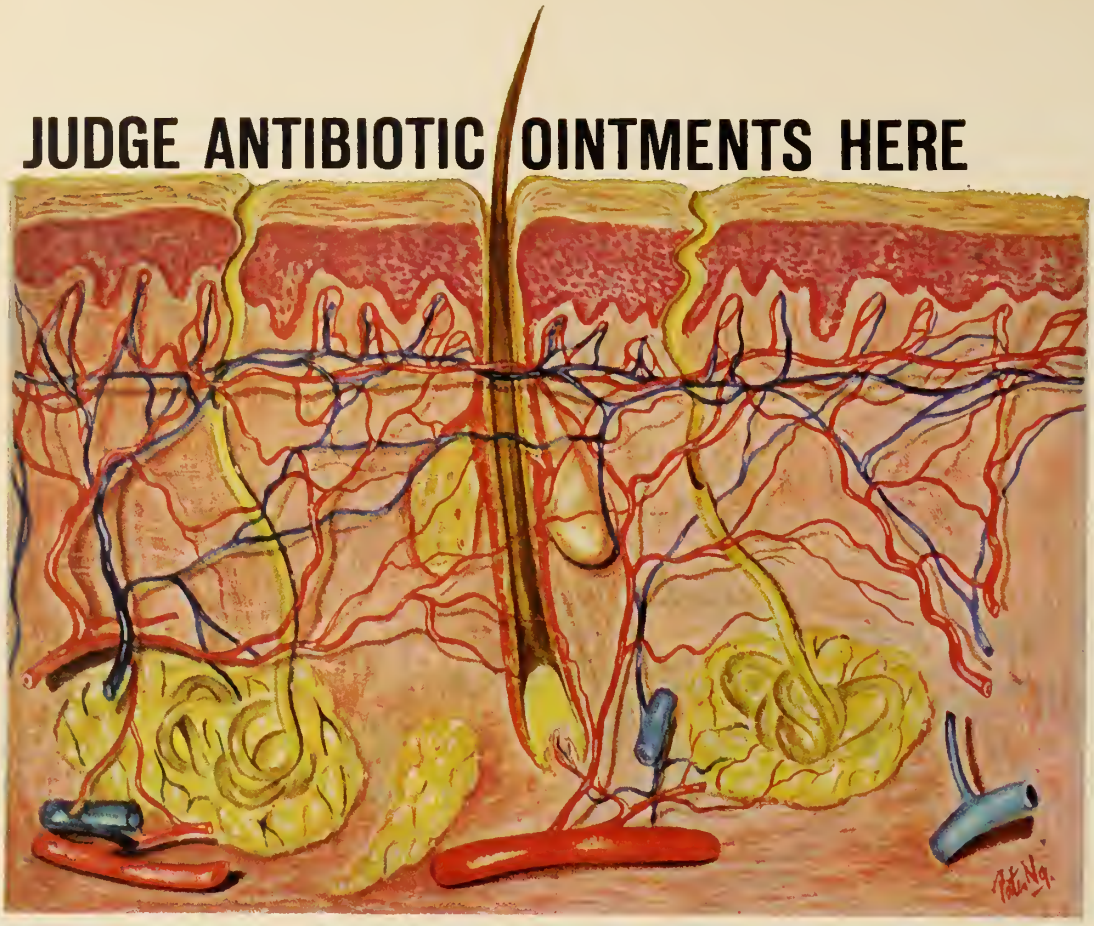
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damaged physically. It was brought out that the establishment of such a center would almost of necessity displace any private physicians who might happen to be practicing there. The service offered is by no means cheap; in Denver for example at first out-patient visits cost $65. This figure included not only the ordinary medical and laboratory and professional expenses, but taxi fare, and "inducement fee", which was defined as what you paid the prospective patient to come and let you treat him. At the present time visits cost less, maybe $35. Another consideration dealt with the obtaining of federally salaried physicians to work in such places. It was understood that they would have a good and adequate salary, and regular hours, maybe 40 or 48 hours a week; but that to make them happy, it should be understood that they could have a private practice elsewhere, provided this did not interfere with their care of the poor, or that they could work longer hours for overtime pay. Of the 19 or 20 proposals, by straining my conscience, I was able to approve maybe a dozen and did so. The majority of the committee endorsed the entire report heartily and urged its acceptance. I therefore submitted a minority report, over heated opposition, the crux of which is quoted below:

"The Report of the Committee on Health Care of the Poor is based upon the following assumptions:

1. It is the duty of the federal government to provide for the poor.
2. The AMA should request increased federal spending now.
3. Private medicine has failed to provide adequate medical care for the needy, and cannot do so.
4. Organized medicine can guide federal medical programs in the way they should go.
5. Projects started with federal financing such as community health centers, may be expected presently to become self-supporting and to return from governmental control to the free enterprise system of private medicine, and government may be expected to relinquish its control of them.
6. There is no way to overcome the alleged crisis in health care of the poor except through massive federal participation.

The writer believes these assumptions to be fallacious, and cannot recommend a program which is based upon them."

This committee report was the next to last item of business on the House agenda. Consideration therefore was somewhat brief. There was some support for the minority report, but the majority report was accepted.

The final item was a report of the Board of Trustees which stated that the AMA had negotiated a contract with Temple University for a study of methods of delivery of health care to the poor. Temple University expects to operate one or more neighborhood centers for the purpose of treating patients; but the AMA will join with Temple in a computerized evaluation of the results. The contract has been written but not signed, and the Trustees pointed out that the AMA and Temple would request federal funds for this project, which requesting of federal funds by the AMA represented a new policy. The committee recommended that the House accept the report as information, and that the House itself vote on whether it should adopt the new policy of having the AMA request federal funds. The House declined to take hasty action on the latter proposition, and tabled the motion to approve this new policy.

To the writer it is perfectly apparent that those in control of the AMA, while expressing regret and even dismay over certain federal actions, nevertheless have decided not to fight these actions vigorously, but rather to endeavor to guide the federal government, and indeed to cooperate wholeheartedly with it in these far-reach new methods of health care delivery. The writer strongly suspects that the AMA brass approves the World Health Organization definition of health, and accepts a considerable portion of the responsibility for its implementation. Whether this position on the part of the AMA brass is the result of compulsion, seduction, discouragement, or apathy is a matter of personal opinion. It also ought to be a matter of personal concern to those who constitute the membership of the AMA.

REPORT ON THE ANNUAL MEETING OF THE AMA

July, 1969

John Hawk, M. D., Delegate

Most of you heard about the "goings on" at the Annual Meeting of the AMA almost as soon as those of us who were attending it in New York City. And what you heard certainly wasn't very cheerful or encouraging. We had just been stirred by a beautifully rendered "Pageant of the Flags" by the U. S. Marine Drum and Bugle Corps when a group led by Dr. Richard Kunnes, a psychiatry resident at Albert Einstein Medical College, took over the podium and began to berate the AMA as the "American Murder Association," among other choice epithets. He was granted three minutes to speak to the House, exceeded the time limit, and therefore the microphones were cut off. There was general pandemonium, some minor scuffling, shouts of "Hip-Hip-Hippocrates'. and "Up with Health—Down with Fees." Kunnes burned a card, said to be a Blue Cross rather than an AMA membership card. Order was finally restored and the meeting was resumed after the demonstrators had left. Most of the demonstrators had shown their true colors by remaining seated and even hissing during the playing of the National Anthem.

Dr. Thomas Parker introduced an emergency resolution calling upon the House to instruct the Executive Vice President to take the necessary security measures to prevent a re-occurence of any such event, and also stating "Resolved, that the Speaker of the House of Delegates be instructed to deny the microphone to any such uninvited speakers." This resolution was discussed at length in the Reference Committee and several mechanisms of coping with disruptions were suggested. It was something of a disappointment to many of us that no final action was taken. Instead, the Reference Committee's conclusion was "that this incident was handled in the democratic tradition and recommends that Resolution 130 and the comment of this report be referred to the Board of Trustees for its future guidance."

The Resolution did bear some fruit, however, when there was a subsequent request by the same Dr. Kunnes to speak at the inauguration of the President during prime television time. The Committee on Rules and Order of Business rejected it, and there was no further disturbance except for some picketing outside the Americana Hotel.

The South Carolina Delegation, including Doctors Perry, Miller, Peeples, Jervey and others, as well as Mr. Meadors, Dr. Parker and me, met on several occasions to plan our activities and particularly our coverage of Reference Committees. At this point, Dr. Parker and I would like to urge any members of this House of Delegates (or any other members of the SCMA for that matter) who attend AMA meetings to keep in touch with us. We would appreciate your help in attending Reference Committee meetings and testifying to various resolutions. With a delegation as small as ours, we need the help of as many other knowledgeable persons as possible.

The South Carolina Delegation introduced four Resolutions in addition to the special resolution already mentioned. They fared as follows:

Resolution 64, pertaining to "Solicitation and Commercial Advertising of a Medical Specialty by Lay Corporations in AMA Publications" was considered together with eleven other similar resolutions. The Reference Committee brought out a substitute resolution and this was referred to the Judicial Council.

Resolution 63, "Sex Education in the Schools," was considered with two other resolutions on the same subject. The Reference Committee brought out a substitute resolution which recognized that the primary responsibility for family life

education is in the home, but gave AMA support in principle to the introduction in the schools of a voluntary family life and education program at appropriate grade levels, with careful restrictions. It also urged utilization of physicians as consultants, advisors, and resource persons in the development and guidance of such programs.

Resolution 61 asked the House to rescind that portion of Resolution 12 from the 1968 Annual Meeting which had reaffirmed Association support of Medicaid. This Resolution apparently received little support in the Reference Committee. The Committee felt that the prior statement from Resolution 12 made clear that the AMA support of Medicaid is not unconditional and also noted that the AMA proposal for tax credit financing of the purchase of voluntary health insurance, if enacted into law, will provide a viable alternative for Medicaid. Resolution 61 was therefore not adopted.

Resolution 62 "Medical Care as a Right." Unfortunately, the intent of our resolution was reversed by the Reference Committee in the first statement of the following substitute resolution:

Resolved, That the House of Delegates reaffirm its position that (1) It is a basic right of every citizen to have available to him adequate health care; (2) It is a basic right of every citizen to have a free choice of physician and institution in the obtaining of medical care; and (3) The medical profession, using all the means at its disposal, should endeavor to make good medical care available to each person.

Much discussion and controversy occurred in regard to the further absorption of Osteopathy into Medicine. In essence, the action taken was to urge exploration of the possibility of encouraging the development of reasonable curricula on the post-graduate level for awarding an MD degree to qualified osteopaths, enabling them to meet the standards required for appointment to staffs of hospitals, and for acceptance for both association with and membership in county and state medical associations and the AMA.

Dr. Edward Martin, President of the Student American Medical Association presented a well-received address in which he recognized and deplored the rudeness and coarseness of the student and young physician demonstrators, but at the same time, expressed his concern over the angry, emotional and even violent response of some members of the House. He stated: We must apply the best social sense—not raw emotion—to understand the student activist and what he is saying."

He ended his address as follows:

"As John W. Gardner said, 'There is no middle state for the spirit. It rises to high levels of discipline and decency and purpose—or it sags and rots.' We, as students and physicians, have that challenge and there will be no test for this spirit except responsible, decisive and progressive action."

Mr. M. L. Meadors of Florence, executive secretary of the South Carolina Medical Association, was recently elected president-elect of the American Association of Medical Society Executives.

MEMORIAL COMMITTEE

In his *Religio Medici* Sir Thomas Browne wrote: "And therefore at my death I mean to take a total adieu of the world, not caring for a monument, history, or epitaph, not so much as the bare memory of my name to be found anywhere but in the universal register of God."

Surely our departed collegues are registered there. By what means? By the return to skipping and jumping of a little child who lay paralyzed; by the return to his vocation of a man laid low with a coronary; by the return to her family of a woman threatened by cancer; by the reconciliation of an estranged marriage. By these and countless other deeds in the daily rounds of these physicians, for our Lord said, "Inasmuch as ye have done it unto the least of these my brethern, ye have done it also unto me."

Respectfully Submitted,
J. Richard Sosnowski, M. D.
Memorial Committee

Since the last Annual Meeting the following members have died:

Duncan Curry Alford
Charles Herman Andrews
David St. Pierre Asbill
Mylnor Wilbur Beach
Purvis James Boatwright
John Henry Boulware
Joseph Blain Cash
David Luther Chisolm
William M. Corbett
David Johnson Dixson
Herbert Richardson Dove
Marion Edmonds
Louis Augustus Fraysse
Benjamin Franklin Hardy
Maxcy Wilbur Hook
Nicholas D. Lill
Thomas Carr McFall
Willard Brain Mills
Richard Morris Pollitzer
Augustus G. Purvis
Charles Pinckney Ryan
Keith Fitts Sanders
William Schulze
James Bruce White
Walter Eugene Whitley
Carr T. Larisey

INSIDE THE BOARD OF HEALTH'S EXECUTIVE COMMITTEE

To seek guidance from higher authority, the Executive Committee of the Board of Health opens each session with prayer. Quite often, Howard B. Higgins, D. D. S., Board representative from the State Dental Association, brings the invocation.

A typical meeting finds the Board members converging on the J. Marion Sims building, headquarters of the State Board of Health* in Columbia at 3 p. m. on the third Wednesday of the month.

Beside members of the Committee, which includes E. Kenneth Aycock, M. D., the State Health Officer, as Secretary to the Board, agency Bureau Chiefs and other interested individuals may attend the meeting.

Occasionally meetings convene at State Park Medical Center, or once a year in conjunction with the annual meeting of the Medical Association.

Business of the Committee varies.

Members of the State Dairyman's Association may appear to support or dispute changes in the rules and regulations governing milk producers. Currently arguments for and against TB testing of herds annually, versus tri-annually, as required in adjacent states, came under discussion. Such cases are referred to Clemson University, the Department of Agriculture, and others for opinions. Ultimately, however, the Executive Committee must decide whether or not to amend its current rule regarding annual TB testing.

* * *

Always the State Health Officer reports. A typical meeting finds him reporting an answer from the Department of Health, Education and Welfare to a request of the Committee that the three day hospitalization period before a Medicare patient may be admitted to a nursing home be waived. HEW explained that the waiting period was necessary so the physician could determine the patient's condition.

Dr. Aycock continued, reporting a successful comprehensive health planning meeting held thrice: Greenville, Florence and Columbia. A total of 600 attended the three meetings, stirring considerable community interest in plans for health services and facilities.

Concerning legislation, a bill to regulate the hearing aid business, the Health Officer reported, is tied up in Committee. The public needs protection from unscrupulous dealers and instead of setting up their own licensing board, legitimate hearing aid dealers and audiologists have chosen to come under the Board of Health for this purpose. Representative of such problems which come before the Executive Committee, this one deals with a bill which probably will need considerable refinement before it becomes law.

On any third Wednesday business of vital interest to the State comes before the Committee. On a particular Wednesday, April 15, 1970, for example, such items as these were brought up.

The Pollution Bill, as passed by the House, provides certain administrative power to the Pollution Control Authority which the State Board of Health believes would be helpful. However, it moves pollution control out of the State Board of Health and sets it up as a separate agency with a new advisory committee. The House amended the legislation as originally drafted, created a new Authority, adding to the Authority membership the Commissioner of Water Resources; a representative from the Department of Parks, Recreation, and Tourism: the Labor Department; the State Board of Health; and Wildlife Resources; and one

*Semantic confusion exists in South Carolina. In 1878, the General Assembly set up the South Carolina Medical Association as a "Board of Health." Subsequently an Executive Committee with representation from the Nursing, Dental, Pharmacy, and Veterinary Associations, as well as the Medical Association, was established. Yet, the operating agency, frequently called "The State Health Department" in other States, was also named "The State Board of Health."

person to be appointed by the Governor from each congressional district. The Governor would appoint the Chairman. This legislation is presently tied up in the Senate Committee on Labor after having passed the House.

Dr. Aycock pointed out that this act separates the Authority completely from the Board of Health; it does not go into detail about the new organization; and he believes that insufficient thought has been given to its provisions.

While the Board of Health realizes that environmental health is not the exclusive right of the health department and the health department does not have complete technical competence to administer the Pollution Control activities in the State, and separation of Pollution Control from the Board of Health would lend to considerable administrative difficulties.

Dr. Aycock reported briefly some of the health activities on the federal scene, concerning Medicare, Medicaid, national health insurance and the pressures on the national scene to transfer environmental health to the Department of Interior.

Further he reported that the Mary White Building at State Park Health Center will probably be used to expand space for some of the State Board of Health central office staffs. About seventy people will soon need housing, including Dr. Padgett's Child Evaluation staff and others. Also, the bond issue has been passed and the State Board of Health will receive about $2½ million for construction of a building to be known as the North Complex, which will also house Welfare and Vocational Rehabilitation agencies. Certainly this will give access to a great deal more space than the State Board of Health now has in the Sims Building. He stated that about $90,000 will be required to provide the structual and renovation changes in the Mary White Building, none of which will prevent the eventual use of this building for patients if and when this becomes necessary. Dr. Aycock stated that we are now paying about $40,000 a year to Middleburg Park and about $30,000 on Barnwell Street for office space. He called attention also to the tremendous amount of land surrounding State Park Health Center, and the rapid expansion of all departments of the Board of Health.

* * *

At any meeting other members of the Board of Health frequently report. Such was the case on April 15th when Malcolm Dantzler, M. D., Assistant State Health Officer, reported that field work on the Nutrition Survey was completed on March 24, and that South Carolina is now over the most strenous and time-consuming part of this survey, which covers ten states and surveys the incidence of hunger and malnutrition. As in the other states, concentration was in the areas of lowest income.

It was found that few of the middle and upper income people were willing to come to the centers and take the time for ninety minutes of testing which the survey required. Also, the $3 paid to each individual who completed the procedure was more attractive to the low income people. Another factor entering into this was that since the program was conducted with federal funds there was no discrimination in the employment of personnel. A total of 4800 people were surveyed out of a sample of 9200. This number compares favorably with other states. In some poverty areas, people have been changed in economic status since 1960. This modified the results. Developed for national use the procedure was based on similar studies in 33 foreign countries.

The five avenues of approach covered medical, biochemical, dietary, general and socio-economic approaches. Dr. C. E. Ballard, a former health officer of Pickens County, came out of retirement to do the medical examinations. The biochemical tests of blood and urine at that time were not all completed. Most of these were done in the State Board of Health Laboratory, but some had to be sent as far away as Denver. The poor people of South Carolina are in about the same nutritional state as in other states. They showed up better than Texas in Vitamin C and protein tests.

Dr. Jack Padgett, Chief, Bureau of Maternal and Child Care, reported on three months operation of the new abortion law. Fewer low income individuals seem to benefit less than hoped, but it is too early to predict the outcome.

To speak on the progress of the medical laboratory licensing law, at that time in Senate Committee, having passed the House, the Executive Committee Chairman called on Dr. Arthur D. DiSalvo, Chief, Laboratory and Research Bureau. He reported resistance by the medical technicians since the law did not give them representation on the Advisory Board. Dr. DiSalvo said the law was under study and his hope is to have it equal the standards set forth in the Federal Government Clinical Laboratory Improvement Act of 1967.

Recently, during the annual meeting of the South Carolina Medical Association at Myrtle Beach, May 11-13, 1970, membership of the Committee changed.

1. Doctors W. R. Wallace and O. B. Mayer retired.
2. Doctors Winston Y. Godwin and William H. Hunter were appointed.

So it goes many third Wednesdays in the month. The South Carolina Medical Association's responsibilities as "The Board of Health" finds discharge by a dedicated group of men and women: The Executive Committee.

D. H. R.

The Journal of the South Carolina Medical Association

50 YEARS AGO

An editorial discussed the bequest of Dr. W. J. Young of the town of Fairfax for the erection of a hospital. A new hospital known as the University Sanitarium was opened in Anderson by a stock company of which Dr. A. L. Smethers was president. Abbeville Hospital was also reported as opened. The State Board of Medical Examiners was discussing the licensing of osteopaths.

Dues of the South Carolina Medical Association were $5.00.

The Charleston Medical Society met twice a month.

Dr. Wallis Cone

Dr. Wallis Cone of Williston, Barnwell County's oldest practicing physician, died June 2, 1970.

Dr. Cone was born in Brunson on November 3, 1890 and has lived in Williston since 1912 where he had been owner and operator of Cone's Drug Store since 1919.

A graduate of Brunson High School, Dr. Cone attended Wake Forest College and was graduated from the Medical College of South Carolina in 1912.

He served as a member of the Barnwell County Board of Education, member of the Barnwell County Hospital staff and also was chief of staff at one time. Dr. Cone was a former mayor of Williston and member of town council. He was chairman of the Williston School board for a number of years and served both as president of the Barnwell County Medical Society and the Edisto Medical Society.

Dr. Cone was also a member of the Williston Health and Development Boards at one time and also served as a member of the S. C. Advisory committee to Selective Service of the National Advisory committee.

Dr. Olga V. Pruitt

Dr. Olga V. Pruitt, 85, pioneer woman doctor in Anderson and upstate South Carolina, died June 20, 1970.

A graduate of Winthrop College, she entered the Women's Medical College in Baltimore, Md., and completed her internship at the Medical College Hospital in Philadelphia, Pa. She did post-graduate work at Johns Hopkins.

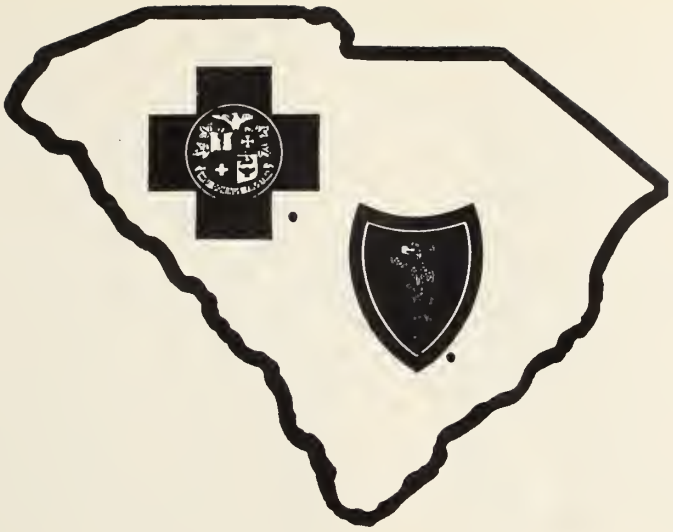
In 1911 she opened her office in Anderson, where she served Anderson College for 44 years, as teacher of physiology and hygiene, and as college physician.

She was the only life member of the Anderson Business and Professional Woman's Club, and in 1966 she was given an honorary life membership in the Anderson Chamber of Commerce.

A native of Anderson County, she was a member of the American Medical Association, the Women's Medical Association and the Anderson County Medical Society.

FRANK HOWARD RICHARDSON
1887-1970

The *Journal* learns with regret of the death of Dr. Richardson at Black Mountain, N. C. Well known as an author of books on the problems of children and mothers, sometime ago he was closely associated with many of our South Carolina physicians, especially with those concerned with the Southern Pediatric Seminar. Originally of New York, he practiced for many years at Black Mountain and Asheville, and with Dr. Lesesne Smith was the co-founder of the seminar at Saluda.



Serving more than 600,000 South Carolinians with a variety of programs for prepayment of the costs of health care, we pay more dollars on hospital, doctor, and nursing home claims in South Carolina . . . . . *more than the combined payments of such benefits by the 15 commercial insurance companies with the largest health insurance business in this state.**

*Source: Sixty-First Annual Report of The Department of Insurance of South Carolina.

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BOOK REVIEWS

MEDICAL SCHOOLING IN SOUTH CAROLINA

1823-1969 by Kenneth M. Lynch, M. D.
The Alumni Association, Medical College of S. C.; R. L. Bryan Co., Columbia

This beautifully designed, bound, and printed book of 150 pages was published recently by the Alumni Association of the Medical College of South Carolina. It is an extensive revision of a series of articles published by Dr. Lynch over a period of a year or more and carried serially in the *Journal of the S. C. Medical Association.*

The author along with the Alumni Association performed a distinct service when this historical monograph was made available for reading now and for preservation in the archives of the Medical University.

The front cover of the little book carries the reproduction of a colored photograph of the old Medical College building which stood on Queen street. The picture will look familiar to only a few doctors now living who received all or a part of their medical training there.

Dr. Lynch kept voluminous scrap books through out his career. When he came to write the articles which led up to the book under review, he had at hand a vast amount of source material.

The first pages of the book are largely historical, with many photographs of the first faculty members. The author has interspersed considerable editorial comment. This portion reflects the earliest effort to 1913, when Dr. Lynch appeared upon the scene. He came as professor of pathology, the first full-time instructor to have been employed by our school. He had just completed a residency in pathology in the medical school of the University of Pennsylvania. He had been sent down to Charleston by Dr. Allen Smith, his chief. Tradition has it that Dr. Smith told his young student to go down to Charleston, a beautiful and historic old city and see if he could save the venerable and old, but financially poor medical college which needed help.

Dr. Lynch came, immediately fell in love with the city and its people, recognized the opportunity, and set a course for his life's career.

So began the Kenneth M. Lynch era of medical education in South Carolina.

In his book he tells the story in considerable detail. He writes as always in a simple and interesting style, interjecting from time to time, what I have termed literary idiosyncrases, which added something to his style.

Dr. Lynch seems to have let the fires of conflict within him die down to mere embers, without bitterness or rancor. At one time there was jealousy, and bitterness between individuals, groups and cliques. Essentially it was between town and gown, a condition widely prevalent at one time in American medical education, or jealousies within the full time faculty.

However, most of the old guard as well as the young Turks, have either passed from the scene, or they will fail to find in the book any residual bitterness or lasting animosities reflected there. Instead, they will find and share a justifiable pride in accomplishment, when they stand with Dr. Lynch at his office window and gaze with him over the expanse of the medical center.

This book might in fancy serve as the author's last report to his long since departed preceptor, Allen J. Smith, as he brings his assignment, given to him more than 50 years ago to a close. He could write: "As you directed, I came to this beautiful old city, which I learned to love, and to a medical school with a marvelous history, but then financially bankrupt. I stayed as you directed, and have worked hard, and at times against great odds. My task is now finished, and as I retire from my labors, I leave the college which many hands have worked with me to build following a sustained course of advancement under competent leaders."

J. Decherd Guess, M. D.

MEDICINE AND STAMPS

By R. A. Kyle, M. D., and
M. A. Shampo, Ph. D., editors

Pp 216.

Published by AMA, 535 North Dearborn St., Chicago, Ill. 60610; $4.00 (payment must accompany order, quantity discounts available);

A book of great interest to the medical philatelist and indeed to anybody interested in the history of medicine. Over fairly recent years it has become customary in many countries to honor some of their famous medical people, or indeed some of their famous people of any career with special postage stamps. The collection depicted in this book is remarkable. Most of the famous characters are present, many are missing; obviously this must be because this is not a planned series but a collection of stamps issued at various times and places. Each stamp is accompanied by a brief historical sketch and the subject is pictured. In these sketches one gets information not commonly found.

Other books on stamps have appeared, such as *Medicine on Stamps* by Joseph Kler (1969). This book is not a duplication and is certainly worth the perusal of anyone interested in the historical aspects of medicine.

J. I. W.

SYMPOSIUM ON THE TREATMENT OF CARDIAC ARRHYTHMIAS

Modern Treatment. Vol. 7, No. 1, January, 1970. Noble O. Fowler, M. D., Guest Editor. Harper and Row, New York. Pp. 237. Price: By subscription.

This book is one of a series of various areas of medical treatment which appears bimonthly under the title of Modern Treatment. This symposium is a compilation of 14 sections by 7 authors under editorship of Dr. Noble Fowler. It covers all of the usual cardiac arrhythmias from the treatment aspect but also briefly discusses them in general. The electrocardiographic diagnosis is not emphasized even though it is covered briefly.

The book does not dwell on controversies but is concise and clear in a practical fashion and is a source to which one could turn quickly for information on the practical treatment of arrhythmias. Especially clear are the sections on heart block and pacemakers, propranolol therapy, and digitalis induced arrhythmias, all areas where many new concepts have emerged. There are a few repetitious areas.

One who deals with such problems and needs concise information at his fingertips as well as those in the learning process would find this a useful book.

Grady H. Hendrix, M. D.

AN ATLAS OF CHILDREN'S SURGERY

By. Robert E. Gross, M. D.
First Edition, W. B. Saunders Co., Philadelphia, 1970. Pp. 187 $19.00

This book has been long awaited. His last book, *The Surgery of Infancy and Childhood*, was written 17 years ago. There have been many improvements in technique since that time.

This is all that an atlas should be. It has good clear drawings and the operative descriptions are concise and clear. Dr. Gross writes a short paragraph as an introduction to each operative procedure and then follows an outline of the operative technique. Finally, a very short paragraph follows in which the author makes pertinent comments about the condition and mentions recent advances in operative repair and also various alternate techniques. Each operation is handled in that matter with the description on the left page and the operative drawings on the opposite right page.

Most of the operations listed are general surgical procedures or urological procedures but the final procedures describe the most common cardiovascular operations. The final session in the book is a list of references which are arranged to correspond to the description of the operative procedures.

In short, this is a superb atlas which is well arranged, well illustrated, well written and should be well received in the field of Pediatric Surgery.

H. B. Othersen, M. D.

THE OEO CENTER IN CHARLESTON

The Franklin C. Fetter Family Center in Charleston represents the state's first comprehensive family health care program funded by the Office of Economic Opportunity (OEO).

Its guidelines: Try to determine the health needs of the poorest element in the peninsular portion of the city and come up with the best possible health care delivery system.

The Center, on opening its doors on March 28, found these assignments to be on the challenging side, indeed. To begin with, many of these residents displayed an innate uneasiness about seeking medical attention, almost to the point of superstition. These were people one never saw in a physician's office or hospital clinic unless there was an emergency. A number were unfamiliar even with the rudimentary rules of sanitation, nutrition, hygiene and personal health.

The non-competitive nature of the Center's operation was further prescribed by income restrictions set by the federal government. The income level cannot exceed $3,600 for a family of four, with a $600 increase allowed for each additional member.

As implied earlier, the Center on its opening found, like many other new enterprises, that patients were not waiting in line to enter. Wisely, the leadership gave intensive training in basic health procedures to members of the staff known as Family Health Assistants and they made many of the initial community contacts. These assistants, now numbering 20, are from the community, know the community, and work closely with the community in furthering good preventive health practices.

Acceptance by the neighborhood is now excellent. Today some 60 to 90 patients per day are coming to the center on their

own or at the recommendation of friends.

The early acceptance by the neighborhood has spurred planning for a 1.25 million dollar structure to replace within a few years the one-story temporary building on Nassau Street. It is being designed to serve approximately 26,000 persons, triple the number which now can be accommodated. There will be three health care teams compared with the present one team.

The Center's health team has become especially alert to the fact that a patient is a member of a family group as well as being an individual; that many medical and social problems can be solved only by treating patients as a unit. The problems which can arise in a crowded, substandard setting are too innumerable to recount.

Accordingly, the Center has regular conferences to discuss families with multiple difficulties and to set priorities. Ideally the team contains a physician, dentist, sociologist, public health nurse, family health assistant, social worker and family and mental health consultants. It is hoped the concept will be expanded to cover all patients.

The major effort to extend good preventive health practices among the people cannot be overstressed. It figures prominently in the "outreach program" carried out by the Family Health Assistants, in particular. These assistants work entirely in the patient's homes performing such duties as changing a sick person's bed, changing bandages, doing personal services for invalids, and teaching dietetics, sanitation and consumer practices to families.

This upgrading of skills, which also applies to other employess of the Center, is something in which the community can take pride. One will find a courtesy, efficiency and helpfulness at the Center that is remarkable in view of the short time it has been in operation.

Basically the staff is full-time. "we are steadily in search of more full-time professional people, especially in internal medicine," Dr. Leroy Anderson, Director of the Center, reported.

Every effort is made to cooperate with the County Medical Society, according to Dr. Anderson. The Society is regularly kept abreast of the Center's activities through statistical reports and the Center probably will be invited back this fall to give a progress report to the membership.

As general practitioners in the neighborhood have become acquainted with the program, they have brought people in need of the Center's services to its attention, Dr. Anderson noted.

The Center, incidentally, is an ambulatory care center. Any serious cases are referred to the specialty clinics of the Medical University of South Carolina, sponsor of the Center. In the Center are facilities for pharmacy, radiology, laboratory and dental work.

The Center's Community Advisory Council stays alert for any changes necessary in its operations.

C. B. G.



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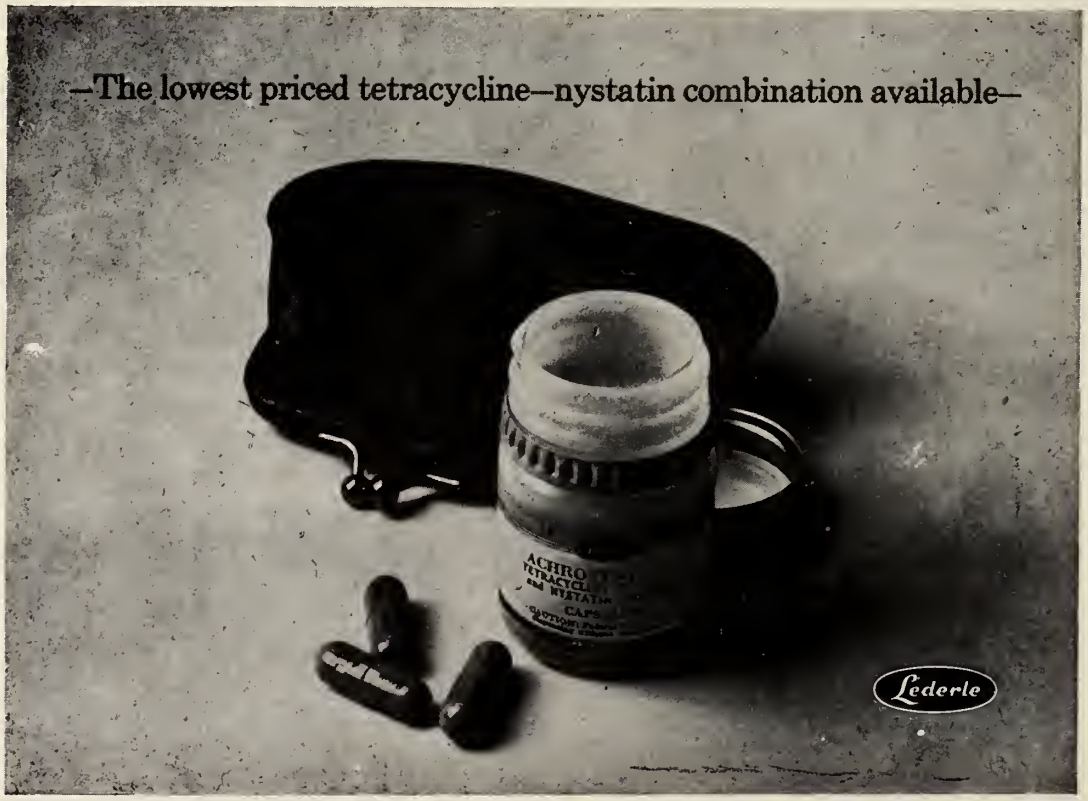
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See Clinical Considerations section on last page...

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ADULT DOSAGE GUIDELINES

See definitive prescribing information in Package Insert.

Patients with Normal Renal Function

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Urinary Tract Infections (due to susceptible strains of gram-negative bacteria)†	0.8-1.2 mg./kg. for 7-10 days	Larger doses or additional antibacterial therapy should be considered in severe urinary tract infections or in resistant cases involving the renal parenchyma or anatomic anomaly.	up to 5 mg./kg.
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†Alkalinization of the urine may be a useful therapeutic adjunct.

Patients with Impaired Renal Function

To minimize the risk of ototoxicity in patients with impaired kidney function, only the first dose should be that normally recommended. Each subsequent dose should be half or less of that recommended for patients with normal renal function, depending upon the degree of renal impairment.

In patients with renal failure who are undergoing 14-hour hemodialysis twice weekly, administration of 1 mg./kg. GARAMYCIN Injectable at the end of each dialysis period has been suggested.

Clinical Considerations

Indications: GARAMYCIN Injectable is clinically effective in infections due to susceptible strains of gram-negative bacteria, including *Pseudomonas aeruginosa,* and species of indole-positive and indole-negative *Proteus, Escherichia coli,* and *Klebsiella-Aerobacter.* Bacteriologic studies should be conducted to identify the causative organism and to determine its sensitivity to gentamicin sulfate. Sensitivity discs of the drug are available for this purpose. If the susceptibility tests indicate that the causative organism is resistant to gentamicin sulfate, other appropriate antibiotic therapy should be instituted.

IN VITRO INHIBITION OF CLINICALLY IMPORTANT BACTERIA BY GENTAMICIN SULFATE (TUBE DILUTION STUDIES)

BACTERIA	No. of Strains Tested	No. of Strains (%) Inhibited by: 4 mcg./cc. or less		8 mcg./cc. or less*		No. of *In Vitro* Studies
Staphylococcus aureus	1,210	1,200	(99%)	1,206	(99%)	11
Pseudomonas aeruginosa	885	771	(87%)	828	(93%)	16
Escherichia coli	836	736	(88%)	779	(93%)	11
Indole-positive and indole-negative *Proteus* species	477	210	(44%)	358	(75%)	12
Klebsiella-Aerobacter species	292	205	(70%)	231	(79%)	10

*Number of strains (%) of gram-negative bacteria inhibited by 10 mcg./cc. or less are as follows: *Pseudomonas aeruginosa,* 828 (93%); *Escherichia coli,* 792 (95%); *Proteus* species, 393 (82%); *Klebsiella-Aerobacter* species, 284 (97%). From same studies as above.
Source: Package Insert

This drug should be limited to the treatment of serious infections caused by gram-negative bacteria, particularly *Pseudomonas aeruginosa, Proteus* and other susceptible organisms, with due regard for relative antibiotic toxicity. Therefore, the drug should be considered for use against gram-negative: 1. Bacteremia; 2. Infected surgical wounds; 3. Severe soft tissue infections, including burns complicated by sepsis; 4. Respiratory tract infections; and 5. Selected cases of urinary tract infection.

Contraindications: GARAMYCIN Injectable is contraindicated in individuals with a history of hypersensitivity or toxic reactions gentamicin.

Warnings: Patients receiving treatment with GARAMYCIN should be under close clinical observation because of the toxicity associated with the use of this drug. Ototoxicity, vestibular and auditory, can occur in patients, primarily those with pre-existing renal damage, treated with GARAMYCIN Injectable, usually for longer periods or with higher doses than recommended.

GARAMYCIN Injectable is potentially nephrotoxic, and this should be kept in mind when it is used in patients with pre-existing renal impairment. Kidney function diminished by infection of the upper urinary tract may, however, improve during effective treatment with GARAMYCIN Injectable.

Concurrent administration of potentially ototoxic drugs such as streptomycin and kanamycin or of potentially nephrotoxic drugs such as polymyxin, colistin, and kanamycin with gentamicin sulfate has not been shown to afford any clinical advantages and, moreover may result in additive toxicity. Monitoring of vestibular, cochlear, and renal function will provide guidance for therapy in such cases.

Precautions: In patients with impaired renal function in who serious infection develops, serum concentrations of the drug m rise, with consequently increased risk of ototoxicity. In these p tients or in those in whom recommended dosage or duration therapy must be exceeded as a life-saving measure, routine studi of kidney function should be performed when possible. These m be supplemented by evaluation of the vestibular and auditory fun tion and measurement of serum concentration of the drug whe feasible. Serum concentrations of gentamicin should be maintaine below the range of 10-12 mcg./ml. to reduce risk of ototoxicity.

Ordinarily, treatment should not be given for more than 7 to 1 days or be repeated unless required for serious infection not re sponsive to other agents.

As with other antibiotics, treatment with GARAMYCIN Injectabl may occasionally result in overgrowth of nonsensitive organisms. I superinfection occurs, appropriate therapy is indicated.

Safety for use in pregnancy or the potential for fetal ototoxicity o nephrotoxicity have not been established. Studies in pregnant ani mals have not revealed teratogenic or ototoxic effects in the fetus GARAMYCIN Injectable should not be used in pregnant patients o in women of childbearing age unless its use is deemed advisabl by the physician.

Adverse Reactions: The overall incidence of ototoxicity considered related to treatment with GARAMYCIN Injectable was 2.8 per cen (16 of 565 patients). Contributory factors (two or more factors were relevant to most patients) were as follows: 10 had azotemia, 1 received a total of 1 gram or more of the drug, 7 had recently re ceived other potentially ototoxic antibiotics (streptomycin or kana mycin), and 5 were over 60 years of age. Six also had decreased high-tone hearing acuity, which returned to or toward normal in the 4 patients retested.

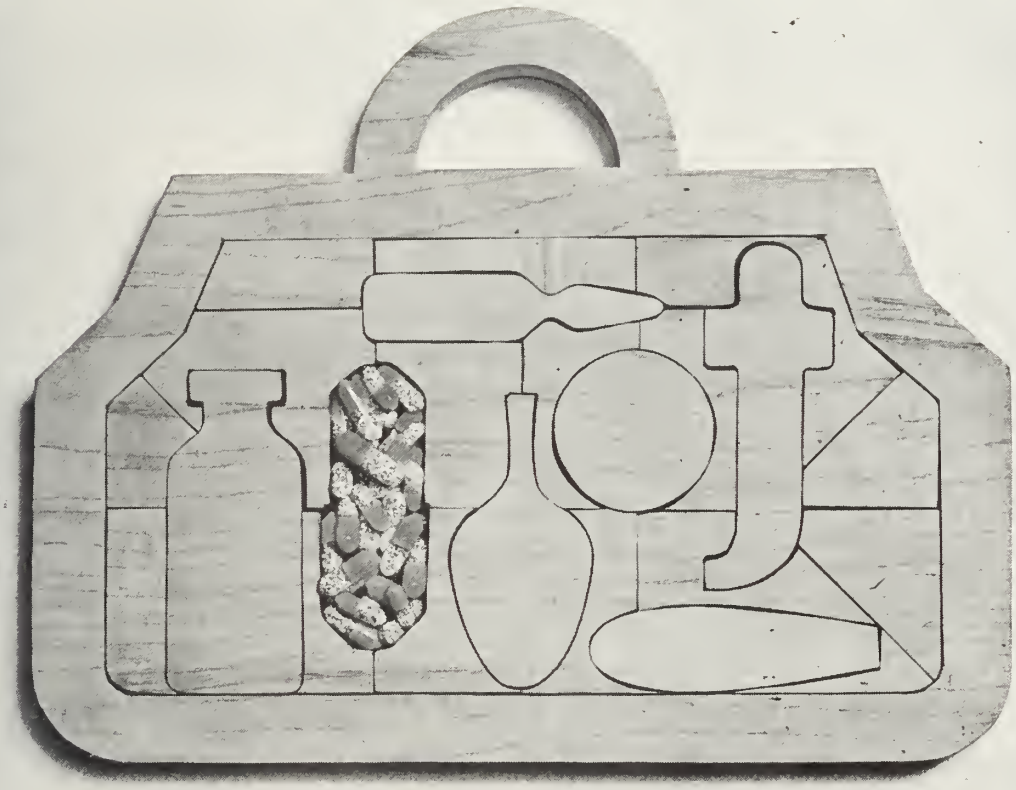
Analysis of BUN data indicated that 4 (2%) of 172 patients showed increases in BUN that were probably related to treatment with GARAMYCIN Injectable. Of 20 increases probably or possibly related to treatment, 7 were reversible, 9 occurred in terminal patients, and 4 had no follow-up.

Other adverse reactions associated with treatment were one instance each of urticaria, decreased hematocrit, and reversible depression of granulocytes with normal bone marrow. Other rarely reported and possibly treatment-related adverse reactions were anemia, increased reticulocyte count, rash, purpura, drug fever, hypotension, convulsions, twitching, salivation, nausea, vomiting, increased transaminase activity (SGOT or SGPT), increased serum bilirubin, decreased serum calcium, and joint pain.

Packaging: GARAMYCIN Injectable, 40 mg./cc., 2-cc. multiple-dose vials, for intramuscular administration.

For more complete prescribing details, consult package insert or Physicians' Desk Reference. Schering literature is also available from your Schering Representative or Medical Services Department, Schering Corporation, Union, New Jersey 07083.

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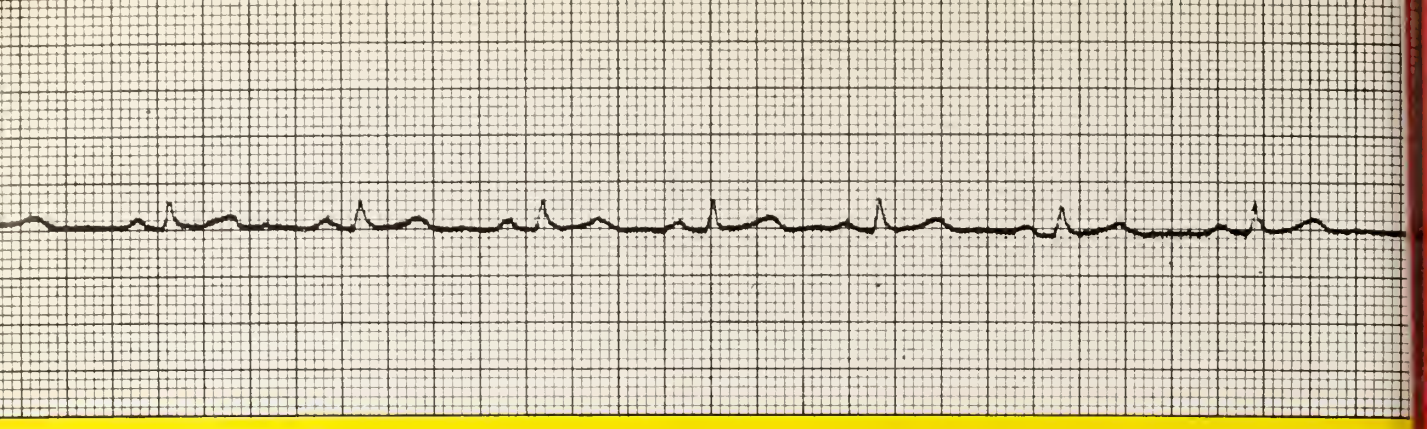
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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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The Journal of The SOUTH CAROLINA Medical Association

LITHIUM CARBONATE

CLINICOPATHOLOGICAL CONFERENCE

CARDIOVASCULAR CASE OF THE MONTH

NUTRITION PROBLEMS

UME 66 SEPTEMBER, 1970 NUMBER 9





Corticosteroid therapy week after week.

then antibiotic therapy last week.

and monilial overgrowth this week.

For many patients on long-term corticosteroid therapy, the addition of oral antibiotic therapy may trigger monilial overgrowth in the intestine. When you anticipate such a problem, take action with DECLOSTATIN 300. It combines the broad-spectrum potency of demethylchlortetracycline with the antifungal effectiveness of nystatin—it helps avoid monilial take-over. Experience has shown DECLOSTATIN to be highly useful for many women patients; individual culture studies will show exactly where this usefulness may best be applied.

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Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose-related. Transient, reversible, nephrogenic diabetes insipidus with excessive thirst and polyuria (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

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Contributions of Original Articles

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

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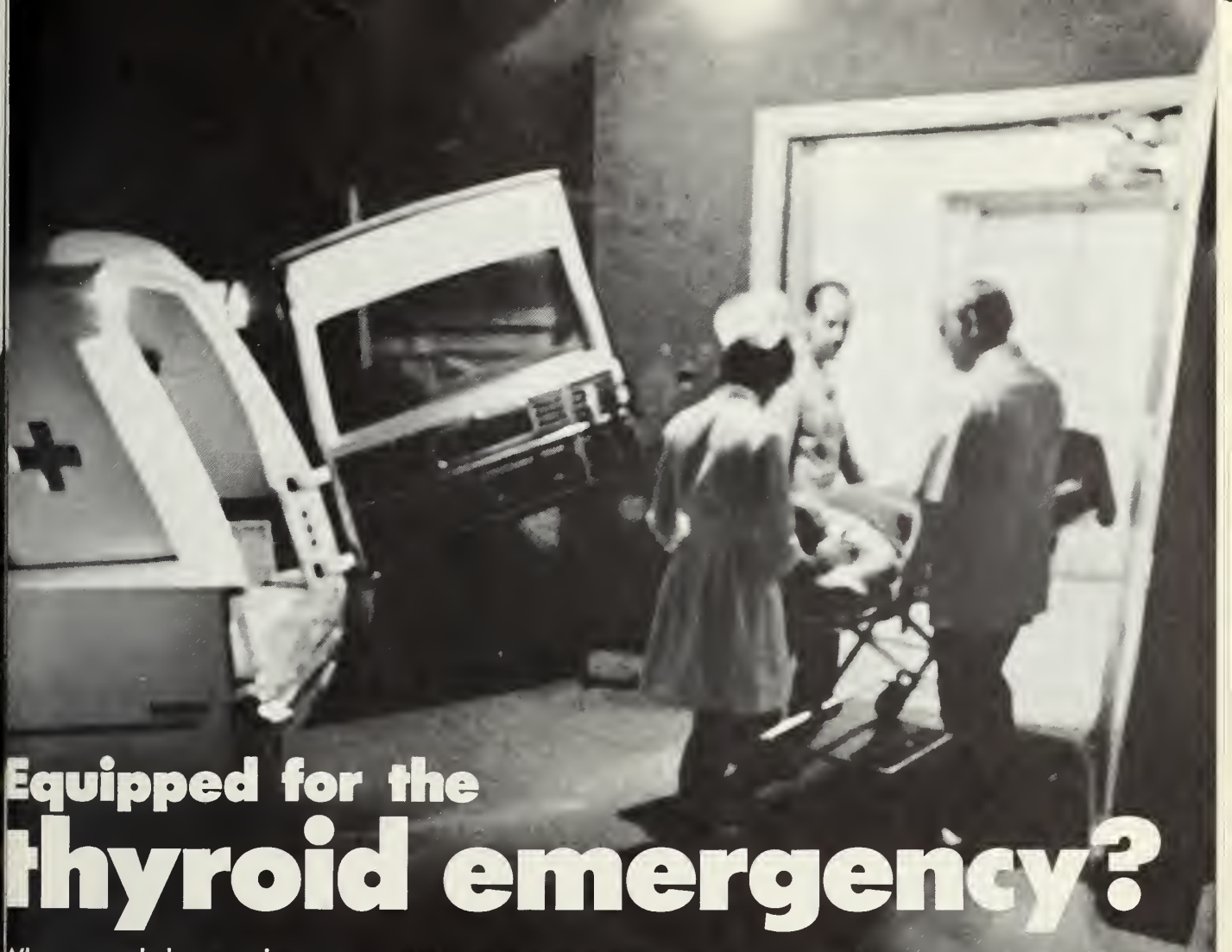
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Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

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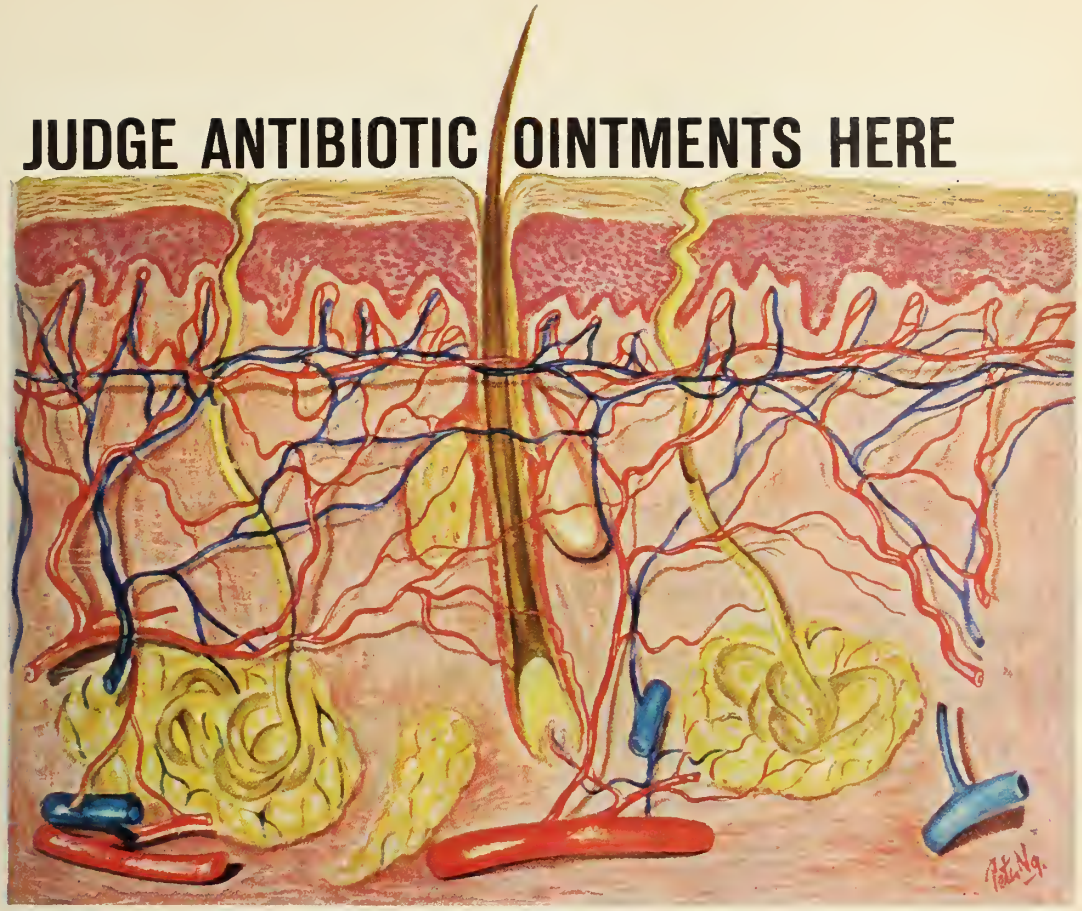
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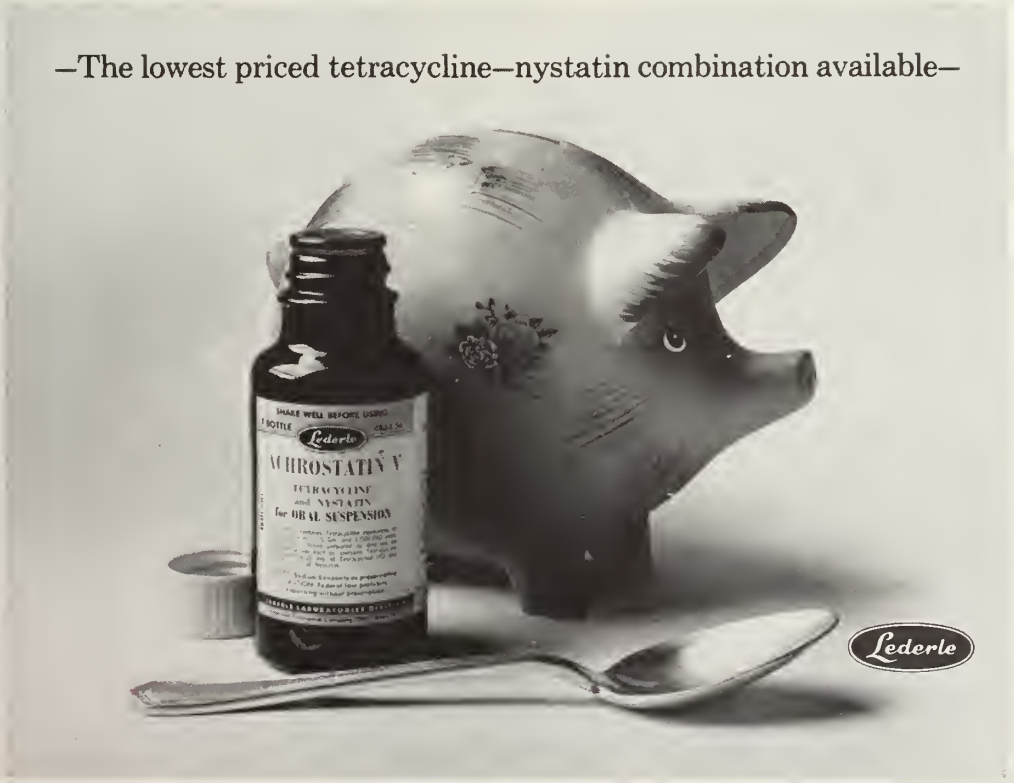
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LITHIUM CARBONATE: A NEW DRUG IN THE TREATMENT OF MANIC-DEPRESSIVE PSYCHOSIS

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LAYTON McCURDY, M. D.

On April 8, 1970, the Food and Drug Administration released lithium carbonate for general use on prescription in the United States. At least four pharmaceutical firms will market the drug in this country. The purpose of this paper is to outline the indications for the use of this drug, its hazards and side effects, and to review briefly some of the experience with the drug in the Department of Psychiatry at the Medical University of South Carolina.

The use of lithium with psychiatric patients was first reported more than 20 years ago by an Australian physician.[1] Unfortunately, this coincided with several fatalities resulting from the use of lithium chloride as a salt substitute in this country.[2] While experimental work with lithium carbonate continued in Scandinavia and Australia, the first reports by American investigators concerning the use of the drug in the treatment of manic-depressive psychosis did not appear until the mid-1960's.[3,4] In the past five years many clinical investigators have explored the use of lithium in various psychiatric syndromes. These investigations have led to the release of the drug for general use by the medical practitioner.

Department of Psychiatry, Medical University of South Carolina.

Several months ago the Department of Psychiatry, Medical University of South Carolina, obtained permission from the Food and Drug Administration to explore this investigational drug. Since that time several Medical University Hospital psychiatric patients have been treated with lithium carbonate.

Case 1: Control of Acute Mania or Hypomania

Mr. W. T., a 37 year old Caucasian male, was admitted to another hospital in an extreme manic phase on December 2, 1969. Five weeks treatment with large doses of a phenothiazine reduced his level of hyperactivity to the hypomanic phase before he was transferred to the Medical University Hospital. Baseline studies were normal and he was begun on lithium carbonate, 300 mg q.i.d. Within three days his activity level was judged normal; however, a stress interview would initiate overproductivity of speech and a noticeable increase in autonomic nervous system functions (pulse rate, sweating, tachypnea, and muscle tension with tremulousness). After ten days there were no signs of overactivity. Other pertinent information relative to the diagnosis included three previous hospitalizations for treatment of depression, six months of extraordinary productivity prior to this decompensation, and a family history strongly suggestive of manic-depressive psychosis in his father.

Case 2: Control and Maintenance

Mrs. A. T., a 24 year old Caucasian school teacher, was referred to the Medical University Hospital from Massachusetts General Hospital for maintenance of lithium carbonate treatment. Her past history revealed a very stormy four year period of uninterrupted

mood swings with six hospitalizations. Her chaotic personal life was marked by poor judgment leading to extremes of behavior with its inherent problems and several suicide attempts. Lithium carbonate was given at a maintenance level of 1200 mg daily in divided doses. Psychotherapy was continued in the stabilized patient. In the subsequent 18 months, the patient has been able to resolve many of her previous conflicts and has accomplished many "firsts"—completion of school, working consecutively for one year, and establishing more mature relationships with her husband and her parents.

Case 3: Individual Toxic Reaction to Low Dose

Mrs. D. E., a 70 year old Caucasian widow, had experienced mood swings for approximately 32 years. In the past ten years they had become increasingly severe, requiring two hospitalizations and continuous drug treatment for two years prior to the present admission. On this admission the patient was in a hypomanic phase characterized by hyperactivity, rapidity and pressure of speech, loose associations, and poor judgment. Except for a mild diabetic glucose tolerance test, all baseline studies were normal. In 48 hours she became lethargic and nauseated with vomiting. The drug was discontinued and phenothiazines were resumed.

Case 4: Combined Therapy

Mrs. R. F., a 60 year old Caucasian school teacher, had been admitted to the Medical University Hospital for electro-convulsive (ECT) treatment of manic-depressive psychosis six times (two depressed phases and four hypomanic) at approximately two year intervals since 1958. Maintenance ECT (one per month) was attempted in a symptom free interval in an unsuccessful attempt to abort the expected decompensation. On this admission, the hospitalization time seemed to be important because the school opening date was only three weeks in the future. She presented as a typical hypomanic. Baseline studies were normal. It was decided to begin concurrent ECT and lithium carbonate. She received three ECT treatments and lithium carbonate, 1200 mg daily. She became asymptomatic in one week and the lithium was reduced to 600 mg daily which, as she has remained asymptomatic, has been her maintenance dose for the past ten months.

Discussion

The patients treated fall into two principal categories: 1) acute manic episodes, and 2) recurring manic-depressive illness with hypomania as a major feature. Effectiveness of lithium carbonate in pure depressive illness has not been demonstrated.

In the treatment of acute manic episodes the beginning dose is 1200 to 2400 mg of lithium carbonate daily, taken orally in divided doses. This level of medication will ordinarily produce a blood level between 1.5 and 2.0 mEq/L. Lithium blood levels should be determined daily during this early treatment phase. While most laboratories are not currently set up to perform lithium determinations, adaptation utilizing a flame photometer is fairly simple. Before initiating treatment, the physician must take a careful history and perform a physical examination; adequate cardiovascular and renal evaluations must be made, including an electrocardiogram and routine urinalysis. Serum electrolytes, blood urea nitrogen, and protein-bound iodine must be determined. Even if these procedures do not reveal evidence of significant physical abnormality, the possibility of reduced renal clearance or idiosyncratic retention may still exist. If there is any suspicion of renal or cardiovascular disease, a renal clearance test should be performed. Indications for a reduction in the daily lithium intake are 1) side effects (to be reviewed below), 2) a high serum level, or 3) improvement. In the characteristic pattern of response the acutely manic patient will show symptomatic improvement by the 5th day of treatment. Eighty per cent of acute manic patients will demonstrate significant improvement by the 10th day of treatment. Most patients are ready for discharge between two and three weeks after initiation of lithium treatment.

Although lithium in controlled doses appears to be safe in healthy individuals whose sodium intake is adequate and for whom the serum level is held below 2 mEq/L, the following side effects may occur. Most frequent and most annoying is a minimal epigastric discomfort or overt nausea, vomiting, or diarrhea. Other side effects include dryness of the mouth, thirst, and a metallic taste. Some individuals will demonstrate muscle weakness, ataxia, and tremor. When lithium blood levels are monitored, these side effects are easily controlled by a reduction in the dosage. More serious side effects associated with toxic levels (above 2.0 mg/100 ml) are seizures and peripheral circulatory collapses.

The drug is less effective in the prophylaxis of recurrent episodes of manic symptoms; however, there does seem to be an attenuation of subsequent episodes and, in many in-

stances, a reduction in their frequency. Patients who are maintained for prophylactic purposes should receive 600 to 1200 mg per day in oral divided doses. The serum level of lithium should be held between 0.6 mEq/L and 1.2 mEq/L, provided there are no significant side effects and symptoms are adequately controlled. During this prophylactic phase serum levels should be determined at two week intervals.

The data for the effectiveness of lithium in the treatment of primary depression are much less convincing.

Based on our experience and the experience of other centers, we have drawn the following conclusions:

1) It is important to begin treatment in a hospital with laboratory competence to do serum lithium determinations.

2) Early treatment should be characterized by a cautious approach and low dosage until the physician's clinical experience justifies confidence in his ability to evaluate and anticipate individual patient response. This caution is reinforced by initial difficulties in the laboratory determinations.

3) Many observers believe that depression is frequently obscured by hypomania. The validity of this observation in our patients leads to a second consideration in maintenance treatment: the combination of antidepressant drugs with lithium.

One of the most exciting aspects of the effectiveness of the drug is the opportunity for further investigation to elucidate biochemical factors relative to the etiology of the manic-depressive syndromes. While the mechanism of the drug's action remains obscure, various attempts to illuminate the action in relationship to current theories of manic-depressive disease and the biogenic amines have been made.[6,7,8]

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A 45 year old white female had enjoyed good health until 6 months prior to her first admission on October 10, 1961. At this time she noticed low back pain and went to her doctor and was treated with sulfa drugs. She had no dysuria, fever or chills, but was told she had a kidney infection. The pain cleared, but then she noted onset of swelling of her face, hands and feet, especially the hands and feet. This was followed by arthralgia of migratory type, myalgia and generalized malaise. For the most part the myalgia involved her shoulders, knees and hips and these were less painful in the mornings. She had recently been hypersensitive to cold weather, which caused her hands to swell and tingle. On one occasion her fingers turned blue and the skin subsequently peeled off. Handling ice trays caused cyanosis and severe pain.

Insofar as can be learned, she had short trials of prednisone and diuretics during this period. She also had right lateral chest pain and dysphagia ("a lump in the throat which cannot be moved") over the past few weeks prior to admission.

Her past history was essentially negative except for hysterectomy 8 years ago and a cholecystectomy in 1958.

On physical examination she was well developed and well nourished, in no acute distress. Skin turgor was good except over the fingers of both hands, especially the right, where there was edema and the skin was extremely tight. The palms were somewhat erythematous. The liver and spleen were not palpable and bowel sounds were active. The patient had pain on motion of knee joints and hips. There was no increase in temperature or swelling. 2+ bilateral reflexes were noted and the plantar reflexes were flexor. There were no motor or sensory disturbances. Barium swallows, chest films, ECG, skin and muscle biopsies were performed.

Laboratory studies revealed the following: Urinalysis: Clear, yellow, Sp. G. 1.005, 3+ albumin, 40-60 WBC/hpf, 0 RBC/hpf, 1+ amorphous crystals, RBC 3.7 million, WBC 6,800, Hgb. 10.2 gms. VPC 37%. Corrected sed rate 17 mm/hr. LE cell preparation negative. PSP excretion 8% in 15 minutes, 25% in 1 hour. BUN, FBS's, and serum protein were within normal limits.

Recommended therapy on discharge was as follows: aspirin liberally, Chloroquine 250 mg b.i.d. for 2 weeks and then 125 mg b.i.d. Priscoline (tolazoline) 25 mg q.i.d. Also a program of rest was outlined.

She was re-admitted on February 9, 1962 complaining of constant diarrhea, severe dysphagia, swelling of her hands and feet with increasing discomfort, progressive pain-

ful tenderness of her extremities and inability to move without excruciating pain which confined her to bed. She had developed severe heartburn, diarrhea, increasing dysphagia and anorexia. She had lost weight and felt she had lost ground since the last admission.

Physically her skin was darkened, cool and very firm. This process was especially severe over the face, upper chest, hands (especially distally) and over her legs. The patient was noted to have a mask-like facies and tightness of the peri-oral cutaneous tissue. The chest was clear to percussion and auscultation, and there was no restriction of breathing. There was no clinical cardiomegaly although a Grade I systolic murmur was heard in the secondary aortic area. The pedal pulses were weakly palpable. There was some indication of periorbital edema. There was a palpable stony hard "shelf" in the right upper quadrant. Generalized mild upper abdominal tenderness was noted. There was some atrophy of muscles in the upper extremities and the patient's musculature in general was tender to palpation on movement in all muscle groups.

ECG was unremarkable. An upper GI series was done as were chest films and films of the right hand. The chest film was negative and the films of the right hand showed beginning absorption of distal phalanges of the ring and fifth fingers and mild osteoporotic changes in the other bones of the right hand.

Her blood profile showed hemoglobin of 10.3 gms, erythrocytes 3.9 million and 11,100 leucocytes, 78 per cent of which were polymorphonuclear. Blood urea nitrogen was 10.5 mg/100 ml. Total protein 6.7 gms with 3.19 gm of albumin and 1.14 gms of gamma globulin.

She was managed on steroids with an initial dose of 60 mg on which she lost 6 lbs. of edema fluid from her skin. Thereafter her dosage was adjusted to control the pain in her extremities, her dysphagia and her diarrhea. A therapeutic program of considerable bedrest, Maalox every 2 hours, Lomotil 1 tablet t.i.d. to control diarrhea, and a 45 mg dose of prednisone per day was found to produce fairly good results, and some improvement in her condition was observed. She was discharged on this program.

Her third and final admission occurred on September 3rd, 1962. Two weeks previously she began having dyspnea and severe weakness. These were accompanied by edema and bloating of her abdomen. The progression of dyspnea, especially at night, and orthopnea forced her re-admission.

The patient appeared to be in much distress. She was severely dyspneic, sweating, anxious and had a tachycardia of 100. She appeared to have painful expirations and a tachypnea of 28/minute. There were moist fine rales heard throughout the lung fields. There was dullness in both bases, especially on the left, with decreased fremitus. The heart was said to be "not enlarged to percussion". A Grade II/III high-pitched, systolic murmur was heard along the left sternal border which was not thought to have been present previously. P-2 was not loud and no gallop was present. The PMI was diffuse. There was 3+ edema of the lower trunk. The abdomen was distended and somewhat tympanitic. Hypoactive bowel sounds in all quadrants were noted. No fluid or shifting dullness was noted. The liver was 2 finger breadths below the right costal margin. The abdomen was not tender, and there was no hepatojugular reflex.

The patient was seen in the afternoon some hours after admission and was noted to be still anxious and severely dyspneic. The tachycardia had increased to 160/minute with a blood pressure of 190/100 mm Hg. The chest was still "full of rales" and hemoptysis had occurred. This had not been relieved by 7.5 gr of aminophylline previously administered. She was given 0.8 mg cedilanid (she had received previously 0.3 mg digitalis leaf). An ECG revealed no evidence of right ventricular hypertrophy. At 6:00 p.m. she received 0.4 mg cedilanid. The tachycardia persisted at 160/minute and was not relieved by carotid pressure. The rales remained throughout the lung fields. At 9:00 p.m. she vomited copious amounts of watery fluid. The heart rate had decreased to 130/minute. At 10:00 p.m. an ECG revealed definite bigeminy with ques-

tionable ischemic pattern. At 11:00 p.m. she experienced more nausea and vomiting and a Compazine suppository was ordered. A transient episode of shortness of breath and restlessness occurred at 4:00 a.m. on September 4th. The pulse was 112 and regular. The lungs were still "very wet". There was no further nausea and vomiting. A short while later the patient had another episode of dyspnea and was treated with 2 ml mercuhydrin and 0.1 gr of morphine. When seen in the afternoon, she was resting comfortably and an evening ECG revealed no bigeminy. The heart rate had decreased to 80/minute. The lungs were still wet although seemingly somewhat improved. On September 5th at 8 a.m. she was comfortable with a heart rate of 80/minute. Rales were still present throughout the lung fields. Serum transaminase was 215 units. About one hour later the patient was seen without respiration, pulse or heart beat. There was no response to resuscitative measures.

Dr. Walter Bonner: With the advantage of having this patient's entire clinical course before me, it is evident that she had scleroderma or so-called progressive or primary systemic sclerosis with a number of systemic manifestations of this disease.

While discussing this case I will use the term scleroderma and progressive systemic sclerosis interchangeably. Scleroderma was the original term but primary systemic sclerosis is now preferred since this nomenclature emphasizes the systemic nature of the disease.

The most remarkable points about this case are the abruptness of the onset and the rapidity of the down-hill course. Apparently the total duration of her illness was around 18 months. The disease apparently began after she had some urinary tract symptoms and was treated with sulfa drugs. Soon thereafter she developed swelling of her face, hands and feet along with arthralgias, myalgias and Raynaud's phenomenon. Now, sulfa drugs have frequently been the cause of serum sickness and this patient was apparently thought to have serum sickness at the beginning since she was treated with short courses of corticosteroids. However, her symptoms continued far beyond the usual duration of serum sickness, which generally persists for only 2 or 3 weeks at the most. Furthermore, Raynaud's phenomenon is not a manifestation of serum sickness, and this phenomenon was the first indication that she had a more serious disease. By the time she was admitted the first time she had developed skin changes typical of scleroderma and she also had mild anemia, heavy albuminuria and dysphagia which are all indicative of a progressive systemic process and not just the serum sickness reaction which might follow sulfonamide or penicillin or foreign serum.

The sulfa drugs have also been incriminated as being a cause of disseminated arteritis or polyarteritis. No doubt the muscle biopsy was done to investigate this possibility. It seems unlikely that she had polyarteritis, since she had none of the major manifestations of that disease — fever, leukocytosis, neuropathy, central nervous system manifestations, or abdominal pain.

The patient did not have an intravenous pyelogram at that time so I can't determine whether or not she did, indeed, have renal disease such as a stone or chronic pyelonephritis which might have caused the symptoms which led to sulfonamide therapy. It is entirely possible that her initial symptoms of back pain and malaise were the earliest manifestations of connective tissue disease, and that the sulfonamides were not involved in any way.

She was treated with chloroquine, apparently as a rather conservative therapeutic approach to what was then recognized to be a systemic connective tissue disorder. Chloroquine is helpful in some patients with rheumatoid arthritis and systemic lupus erythematosus, but is not often beneficial in scleroderma. At any rate, the physician in charge at that time chose to use chloroquine rather than corticosteroids, choosing the less dangerous agent of those available for treatment of this disease.

Three months later she developed further signs of sytemic disease, bearing out the attending physician's suspected diagnosis. She developed typical cutaneous scleroderma with

reabsorption of fingertips. She had esophageal dysfunction. She had diarrhea which was probably related to involvement of her small bowel. She also had arthralgias and myalgias. All of these things are manifestations of classical scleroderma. The physicians in charge at this time decided to go ahead with large doses of corticosteroids probably because they felt they were dealing with a relentless form of the disease. I might digress here to outline the two different clinical appearances of this disease. First is the classical scleroderma or the acrosclerotic type, in which there is hardening of the skin. This "hidebound" skin is typically distributed over the distal parts of the extremities, upper part of chest and face. This is the predominant manifestation of the disease and there are very few systemic manifestations in this variety. These patients show very slow progression of the disease. They may live a virtually normal life otherwise for 15, 20 or more years. This is the most common variety of scleroderma. The other variety is more fulminating, with rapid onset and numerous systemic problems, especially involving the digestive tract and the kidneys. Some of these people also have muscle disease which very much resembles dermatomyositis. This group, with weakness and atrophy of the proximal muscles of the extremities as well as systemic manifestations of scleroderma, are said to have an "overlap syndrome" because they have a mixture of dermatomyositis and scleroderma. This variety shows more of the components of the other connective tissue diseases, such as lupus, dermatomyositis, and rheumatoid arthritis. On the other hand, the acrosclerotic variety seems to be quite different from the other connective tissue diseases in that inflammatory features are at a minimum. The second more fulminating type frequently has serological abnormalities such as positive LE preps or positive tests for rheumatoid factor, but in the acrosclerotic variety serological abnormalities are much less common.

The more signs of inflammation, local or constitutional, one has, the more likely the patient is to get an at least temporary response to corticosteroids, and undoubtedly this is the reason the physicians in charge chose steroid therapy for this patient. Of course, in the more common acrosclerotic variety, we do not get any benefit at all from steroid therapy. It is interesting that she did seem to improve temporarily with the large dose of corticosteroids.

One other interesting point is that the patient was reported to have a left upper quadrant abdominal mass, said to be stony hard, but in the third admission this is not mentioned so I am not sure this was a real thing. The abdomen was distended during the third admission so it is possible that a mass could not be felt. There is the interesting possibility that this was a renal or other abdominal neoplasm. About 30 per cent of the patients with dermatomyositis have an associated malignant neoplasm. It is possible that a renal carcinoma was responsible for her early symptoms of back pain or renal infection and that subsequently she developed a connective tissue disease. I would like for Dr. Pettit to comment on the x-ray films at this time.

Dr. Pettit: I'm disappointed we did not have more examinations of the digestive tract than we have and distressed that we do not have an IVP at all. However, this is an excellent example of absorption of the distal phalanx. This is present in all of the fingers with a little decalcification of the bones themselves, but not striking. The important thing is the narrowing of the tufts. I can also see that the soft tissues are thinner than they should be. There are no subcutaneous calcifications which are sometimes seen with scleroderma. The esophagus is smooth, and is not particularly dilated. There is no stenosis of the lower end of the esophagus with dilatation above as we frequently encounter. Such dilatation need not be due to a stenotic area. There is atrophy of the muscle, the submucosal tissues become fibrotic, and the esophagus is simply tube-like. You can easily miss this diagnosis if you examine the esophagus with the patient only in an upright position, for the barium will fall right through, and you frequently will see a dilated esophagus for no good reason. But with the patient

supine, the large esophagus that is not due to scleroderma will have peristaltie waves, whereas the dilated esophagus in seleroderma will have no peristalsis. There are no films of the stomaeh or small bowel. Originally the chest films were normal. In seleroderma we frequently will see basilar fibrosis, although the radiographic pieture is a variable one. On the films taken shortly before death, the heart borders are not elear. The pulmonary veins are distended and there is a large bilateral pleural effusion, so that the lung bases are obseure. All these later ehanges ean be explained on the basis of eardiae failure.

Dr. Bonner: We may speculate whether it was wise to continue her steroid therapy in large doses because she ultimately got worse. On her third admission she came in with predominant respiratory and eardiae problems with all the signs of heart failure, plus hypertension which had not been present on the first admission. Most likely she had developed left-sided heart failure related to the hypertension and involvement of eardiae musele by fibrosis as part of the seleroderma. The heart murmur that she had is indieative of left ventricular dilatation and not any valvular defeet. Cardiae failure in scleroderma is nearly always associated with the development of hypertension and cardiac involvement alone is rarely suffieient to eause the heart failure. These people frequently develop hypertension. It is nearly always assoeiated with an arteritis of the renal vessels whieh is virtually indistinguishable from that of primary or essential hypertension. One point here is that the development of hypertension in this variety of scleroderma is very eommon and occurs with or without the use of eortieosteroids. Some years ago it was feared that use of eortieosteroids in the patient with scleroderma was contraindieated beeause it seemed to predispose to the development of renal disease and hypertension. I think it is generally aeeepted now that this is one of the features of the natural eourse of this variety of scleroderma, and that the use of cortieosteroids does not eause development of renal vaseulitis and hypertension.

I think the abdominal distention and ileus are probably related to extensive involvement of the small bowel. Diarrhea is one of the rather uncommon manifestations of seleroderma but when present indicates extensive involvement of the small bowel.

The SGOT was elevated this last admission and might be thought indieative of muscle disease. It was probably actually due to hepatic engorgement produeed by congestive heart failure. Elevation of SGOT would not be a reliable index of musele disease in the presenee of heart failure.

In conelusion, I think she had scleroderma or primary systemic sclerosis, the systemic involvement including her esophagus and small bowel, renal vessels with hypertension, and eardiae involvement with heart failure. The heart failure is due not only to the eardiac involvement but also to the hypertension.

Dr. Hennigar: Some of the students may wonder why we seleeted such a classical ease, but I think the purpose of the clinicopathologie eonferenee is a teaehing exereise for the students. The majority of the students felt seleroderma was the diagnosis of ehoiee with lupus as the other prime eonsideration in the differential diagnosis. Dr. Bonner, would you comment as to the eoncomitant occurrenee of lupus and seleroderma?

Dr. Bonner: Seleroderma and lupus may oeeur in the same patient. The demonstration of L.E. eells in systemie selerosis does not necessarily, however, indieate that the patient has systemie lupus. I think it is very difficult at times to distinguish some of these conneetive tissue diseases because they have overlapping manifestations. We frequently see patients that have sufficient arthritie manifestations initially or during the course of the disease to suggest rheumatoid arthritis, or enough skin and musele involvement to resemble dermatomyositis, or a sporadic positive L.E. prep that turns our thoughts to disseminated lupus. Certainly the predominant manifestations here are those of seleroderma and she had a negative L.E. prep which would be strongly against aetive lupus.

Final Pathological diagnoses: 1. Systemic Scleroderma (Progressive Systemic Sclerosis)

with Involvement of Skin, Heart, Lungs, Kidneys, Esophagus and Intestine. 2. Congestive Heart Failure.

Dr. Hennigar: The pathologist has to work closely with the clinician and hematologist in differentiating between the connective tissue diseases. On a morphological basis alone it may be extremely difficult to distinguish in a full thickness skin and muscle biopsy specimen between lupus, scleroderma and dermatomyositis. Periarteritis nodosa can usually be delineated, particularly if subcutaneous tissue containing small and medium sized arteries are included in the biopsy.

The skin biopsy showed collagenosis of the dermis and a paucity of skin appendages. The inflammatory infiltrate in scleroderma is chiefly lymphocytic. However, in some cases of acute scleroderma, particularly in children, I have been surprised to find eosinophiles in the corium as part of the exudate. Initially the skin shows dilatation of capillaries and lymphatics. There is an "intimitis" with endothelial proliferation. This heals in the sense that it undergoes collagenization and hyalinization with either complete or partial luminal occlusion. This results in decreased blood flow through these vessels with consequent ischemia, atrophy and fibrosis. Although fundamentally the sclerosis in scleroderma is an alteration in the ground or cement substance, the chronic ischemia makes a partial contribution to the sclerotic process. These vascular changes may, of course, occur in other organs in addition to the skin and result in the disappearance of functional units and replacement by fibrous tissue.



Figure 1. A portion of a glomerulus demonstrates thickening of basement membranes (b.m.) and the presence of "wire-loops" (arrow), changes present in scleroderma and lupus erythematosus. H&E x 400.

The kidneys show a membranous glomerular change with the same type of lesion that one can see in disseminated lupus. (Fig. 1) This will allow the loss of some protein, but is not responsible for a florid nephrotic syndrome. "Wire loops" in the glomeruli are quite prominent. Similar changes are common in lupus. The arcuate arteries show edema and swelling of the intima. One can see smudgy collections of fibrin in the intima of the arcuate artery and the change here actually is reminiscent of that which one sees in malignant hypertension. (Fig. 2) The

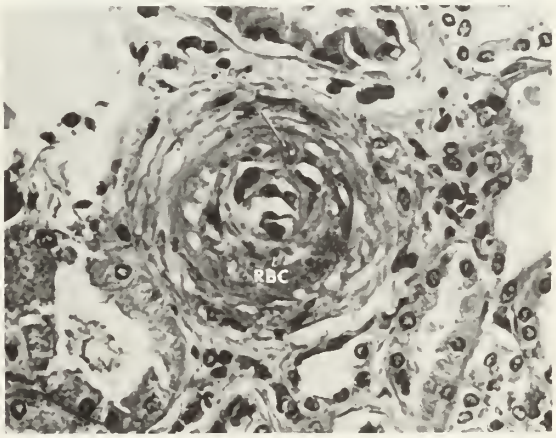


Figure 2. A renal vessel shows edema and fibrinoid necrosis (arrow) of the wall. The endothelial cells are swollen, and an occasional erythrocyte (R.B.C.) is present within the vessel wall. H&E x 200.

endothelial cells are swollen and an occasional red cell is actually in the wall. This fibrinoid change probably represents accumulation of plasma in the vessel wall. This patient didn't have significant hypertension for any length of time because her heart only weighed 340 gm. Even so, I'm not surprised that this patient would develop hypertension as a result of the vascular lesions that are present. They appear to be of relatively short duration. Comparison of the small pulmonary arteries in the lungs in this case with those of a normal lung show edema of the wall and thickening of the intima, not unlike that seen in the kidney. (Fig. 3) This patient had had

basilar bacterial pneumonia because there was a residual organizing pneumonia. Though there were some increased number of fibrous strands throughout the small septa, these lungs, disappointingly, didn't show the diffuse fibrosis of the alveolar walls that is sometimes seen in scleroderma. (Fig. 4) The liver

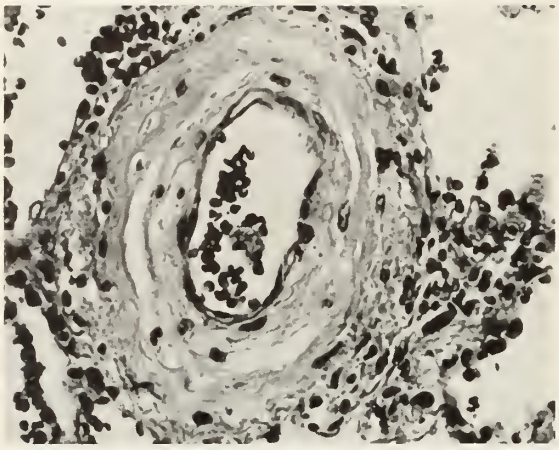


Figure 3. This small pulmonary artery demonstrates edema of the wall and intimal thickening. H&E x 200.

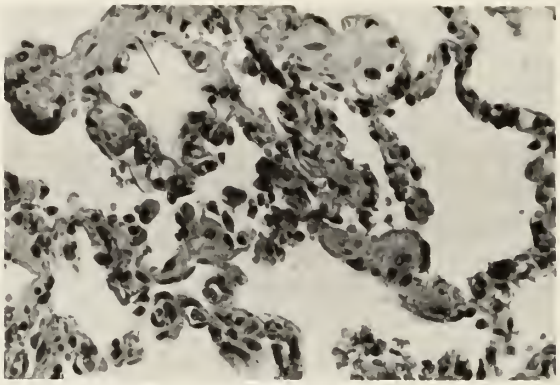


Figure 4. Focal moderate thickening and fibrosis of the septa are present in the lungs (arrow). H&E x 200.

picture is one of severe congestion. I would certainly agree with Dr. Bonner that this patient died of heart failure. The reason for the heart failure was not coronary artery disease, nor hypertension, nor myocarditis, but rather an atrophy of the myocardial fibers with scattered fibrous replacement throughout the left ventricle.

Prevention of Hypothalamic Habitual Abortion by Periactin—E. Sadovsky, et al. Harefuah 78:332-333 (April 1) 1970.

Three women who suffered from habitual serotonin abortion caused by non-metabolized serotonin were treated with the serotonin antagonist peractin (cyproheptadine) in low dosage, 6 to 8 mg/day. These women had been treated in previous pregnancies with the usual combination of progestatives, antibiotics, and vitamins, which did not prevent abortion. After the addition of periactin to the treatment, the pregnancies of two patients continued to term in spite of repeated bleeding, and they delivered healthy, normal babies. The third patient had her 13th abortion, possibly because the dose of 8 mg/day of periactin was not sufficient. In her 14th pregnancy she was treated with 12 to 16 mg/day, and at the end of the sixth month of pregnancy she delivered a live, premature child.

Burning-Feet Syndrome—C. S. Lai and G. A. Ransome. Brit Med J 2:151 (April 18) 1970.

The burning-feet syndrome has been variously attributed to deficiency of riboflavin, panothothenic acid, and niacin, but its real etiology remains obscure. It has never been explained why it affected some prisoners-of-war and spared others. A case of burning feet syndrome was studied in a woman with malabsorption as evidenced by low xyclose excretion, flat glucose tolerance curve, and low vitamin A absorption test. Her burning pain responded dramatically to pure parenteral riboflavin therapy. After three days the pain was greatly reduced and by the sixth day she was free from pain. This supports the earlier hypothesis that riboflavin is the deficient factor responsible for the syndrome, and may explain why it seemed to pick out random cases among prisoners-of-war as if there might be a partial inborn deficiency, perhaps in absorption, of the susceptible persons.

SOUTH CAROLINA HEART ASSOCIATION

CARDIOVASCULAR CASE OF THE MONTH

DEFINITIVE SURGICAL REPAIR OF EBSTEIN'S ANOMALY

WILLIAM H. LEE, JR., M.D.*

The first successful definitive repair of Ebstein's anomaly was reported by Hardy in 1964,[1] although earlier reports of surgical treatment of Ebstein's anomaly by palliative reconstructive techniques or by prosthetic valve replacement appeared as early as 1958. The following case report is presented to illustrate the current concepts of the pathologic anatomy and surgical treatment of Ebstein's anomaly.[2]

Case Report: T. D. R. was admitted to the Medical University Hospital on March 5, 1969, for cardiac diagnostic evaluation. The patient was an 18 year old Caucasian female, and had had two previous cardiac catheterizations with a diagnosis of probable Ebstein's anomaly made by cine-angiocardiography in 1961. Her history included episodic cyanosis, mild exercise intolerance, occasional palpitation and dizzy sensations. The physical examination on admission revealed a pulmonic systolic murmur with a split second sound, and chest x-ray films were reported as revealing gross cardiomegaly with the transverse diameter of the heart 14 cm and that of the thorax 26 cm.

Her electrocardiogram displayed a sinus rhythm with a Wolf-Parkinson-White pattern, right axis deviation, and probable right ventricular hypertrophy. The hemoglobin was 17 grams/100 ml but the routine laboratory data was otherwise within normal limits. Right heart catheterization was carried out on February 28. During the procedure the patient developed numerous dysrhythmias and on two occasions required DC defibrillation during the catheterization. Interpretation of the catheter data concluded that there was a bidirectional shunt present at the atrial level, with downward displacement of the tricuspid valve into the right ventricle, atrialization with paradox of the paravalvular portion of the right ventricle, and normal pulmonary artery pressure. Systemic arterial saturation was 89 per cent. The patient was discharged from the hospital, and readmitted on October 24 for definitive surgical repair of her congenital anomaly. The physical findings and laboratory data were essentially unchanged on this admission, and on October 28 she underwent median sternotomy, utilizing total cardiopulmonary bypass with the Bentley pump-oxygenator. The typical Ebstein's anomaly was found, with considerable dilatation of the tricuspid annulus, downward displacement of the tricuspid valve, a rather small functional true right ventricle, and atrialization of about the upper 30 per cent of the ventricle, with a very large right atrium and a large secundum atrial septal defect. There was hypoplasia of all leaflets of the tricuspid valve with gross tricuspid regurgitation. The valve leaflets were thin, friable, and displayed multiple clefts and fenestrations. The tricuspid valve was excised, and the atrialized portion of the right ventricle was plicated with running sutures of 00 black silk so as to obliterate the atrialized portion. The coronary sinus was transplanted into the right ventricle during the ventricular plication so as to avoid suturing the conduction bundle. The new valve annulus thus created was then utilized as the site for implantation of a 34 mm Hancock formalin treated porcine stented heterograft valve. Finally, the atrial



Hancock porcine heterograft valve prosthesis.

From: The Division of Thoracic Surgery, Medical University of South Carolina

*William H. Lee, Jr., M. D., Professor and Chairman, Division of Thoracic Surgery, Medical University of South Carolina, Charleston, South Carolina

septal defect was closed by direct suture. Temporary electrodes were placed in the myocardium for postoperative pacing control and the procedure was terminated. The patient's postoperative course was complicated by a prolonged period of hypotension which eventually responded to myocardial pacing, and inotrophic drugs. She also developed pleural effusion and pneumonia due to Klebsiella. This responded to endotracheal suctioning, and Kanomycin antibiotic therapy. She recovered from these complications and was discharged on November 16 on digoxin .25 mg p. o. daily. She returned for followup on December 15 and at this time was noted to have had low grade fever for about two weeks, and manifested a pericardial and pleural friction rub, with a leukocytosis of 10,800. She was readmitted on the Cardiology Service for evaluation. She remained afebrile and multiple blood cultures were negative. It was the opinion of her attending cardiologist that she probably had a postcardiotomy syndrome. She has been followed intermittently since that time without further manifestations of fever, or other signs of infection. Her last visit to the MUH Heart Clinic was on March 5, 1970, at which time she was essentially asymptomatic except for a sinus tachycardia of 140 per minute.



Hancock heterograft prosthesis in place.

Discussion

Surgical experience with Ebstein's anomaly has led to the conclusion that this lesion consists of a fairly constant anatomical pattern: (1) The right heart is subdivided into three fairly definite functional chambers, consisting of a proximal right atrium, an intermediate "atrialized ventricle" and a distal true right ventricle. (2) Anteriorly, the valve annulus usually contains a rather large sail-like anterior leaflet, and posteriorly valve tissue is usually absent on the annulus. (3) The downward displacement of the tricuspid annulus creates the functional third chamber which is the "atrialized" right ventricle, with an extremely thin atrophic wall which usually distends paradoxically during ventricular systole and may lead to a severe reduction in myocardial reserve function. The distal true right ventricle is usually small, and this diminution in volume may create a problem if a large ball valve prosthesis is inserted to replace the abnormal tricuspid valve. (4) An interatrial septal defect is usually present. A major factor in the pathologic anatomy is the presence of the atrialized ventricle which creates a serious functional disturbance because of its distension during contraction of the normal myocardium. This sequence has been confirmed by Fabian, et al. using planimetric analysis of biplane cineangiograms.[3] It is obvious from the above that total definitive correction of this anomaly must accomplish three objectives: (1) Provide a competent tricuspid valve; (2) Eliminate the functional paradox resulting from the atrialized portion of the right ventricle. (3) Elimination of shunting within the heart by closure of the atrial septal defect. It is necessary to transpose the coronary sinus into the right ventricle in the course of the ventricular plication so as to avoid suturing in the region of the conduction bundles. In the case described, we felt that a slight further improvement might result from the use of the porcine heterograft, thus avoiding the implantation of a space consuming cage-ball valve prosthesis. With attention to these objectives, the surgical treatment of Ebstein's anomaly should result consistently in the achievement of reasonably normal cardiac function and exercise capability.

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President's Page



The professional purpose in medical practice is to provide effective quality care to the patient. Rewards for service are many, the most satisfying being objective improvement resulting from treatment. An additional dividend comes from seeing a satisfied, grateful patient and family. The method of delivering medical care is in changing times.

National Health Insurance, both on a voluntary and manditory basis, is in the forefront of medical and legislative discussions.

The American Medical Association composed and sponsored bill *Health Insurance Assistance Act of 1970* was reported out of the House Ways and Means Committee the last week of July. This bill is sponsored jointly by Representatives Joel T. Broyhill (R., Virginia) and Richard Fulton (D., Tennessee). This bill would amend the Social Security Act to provide for medical and hospital care through a system of voluntary health insurance financed in whole for low income groups, through issuance of certificates, and in part for all other persons through allowance of tax credits, and to provide a system of peer review of utilization, charges and quality of medical service. Inacted, this bill would amend the Social Security Act to add Title XX to follow Title XVII (Medicare) and Title XIX (Medicaid).

Members of the South Carolina Medical Association were furnished a summary and analysis of the pending legislation on National Health Insurance in February 1970 by Mr. William Sandow, Jr., Executive Director, Blue Cross-Blue Shield. It is well to review this proposed legislation.

Fannin/Fulton Bills – Tax credit system based on income – cover entire population on voluntary basis – underwritten coverage by private carriers – no minimum benefit package – 60 per cent credit for companies providing employee coverage.

AMA Bill – Tax credit based on tax liability – cover entire population – purchased from private carriers – basic and supplemental benefits – no incentive for employer-group coverage – federal payment for poor.

Aetna's Proposal – employed groups receive basic benefits through tax incentives to employers – uninsurable self-employed and the poor pay on scale related to means into private pool subsidized by federal and state governments – all underwritten by private carriers and actuarial loss for pooled group shared by underwriting carriers.

Representative Durward Hall's Proposal – apply to needy and those with catastrophic illness – federal government finance basic coverage for needy through private carrier and catastrophic coverage for non-needy – state provide catastrophic coverage for needy.

Dingell Bill – coverage for everyone – employer- employee payroll tax – administered by a national health insurance board through state agencies – choice of fee schedule, capitation, salary or combination of methods on which to base physician payments.

Rockefeller Proposal – compulsory for workers in plan of one's choice – private carriers – administration by state insurance board – federal supervision of minimum benefits – employer-employee payments for workers – self-employed and nonpoor unemployed pay for themselves – federal payment for poor – federal and state cost controls and provider payments.

Reuther Proposal – compulsory participation – administration through federal agency – two-thirds by employer contribution, one third by federal government – federal payment for poor – provider payments limited by maximum or capitation system.

AFL-CIO Proposal – compulsory participation – administration by federal agency – financed by one-third each from employer, employee, and federal government – federal capitation payment to provider groups; groups pay individual providers.

Javits Proposal – details unavailable– joined forces with Wilbur Cohen who alluded to possibility of using Blue Cross and Blue Shield as public utilities.

The various proposals for comprehensive health delivery plans through National Health Insurance would involve fee-for-service as well as prepayment plans. To meet this problem Medical Foundations are being discussed nation-wide and in many instances are formed and operational. Currently, there are twenty-five community-wide prepaid group practice plans and these serve 3.5 million people. The first foundation for medical care was established March 1954 in California. Most of the geographic area of California has such foundations. The one most often patterned after and described is the San Joaquin plan.

The Kaiser Foundation Health Plan is the largest of the groups and presently operates in at least six states with 2.225 million subscribers. The Permanent Medical Group is part of the Kaiser Plan.

Prepayment comprehensive health plans being formed nation-wide have led many county and at least one state society to form medical foundations.

This brief commentary on National Health Insurance and Medical Foundations is to invite the membership of the South Carolina Medical Association to study these developments.

Ben N. Miller, M. D.,
President

MEMORY

Robert E. Quinn, M.D.

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- May be effective as the sole diuretic or may be combined with a thiazide, furosemide[5] or ethacrynic acid[6].

Indications—Essential hypertension; edema or ascites of congestive heart failure, cirrhosis of the liver and the nephrotic syndrome; idiopathic edema. Some patients with malignant effusions may benefit from Aldactone, particularly when given with a thiazide diuretic.

Contraindications—Acute renal insufficiency, rapidly progressing impairment of renal function, anuria and hyperkalemia.

Warnings—Potassium supplementation may cause hyperkalemia and is not indicated unless a glucocorticoid is also given. Discontinue potassium supplementation if hyperkalemia develops.

Usage of any drug in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the mother and fetus.

Precautions—Patients should be checked carefully since electrolyte imbalance may occur. Although usually insignificant, hyperkalemia may be serious when renal impairment exists; deaths have occurred. Hyponatremia, manifested by dryness of the mouth, thirst, lethargy and drowsiness, together with a low serum sodium may be caused or aggravated, especially when Aldactone is combined with other diuretics. Elevation of BUN may occur, especially when pretreatment hyperazotemia exists. Mild acidosis may occur. Reduce the dosage of other antihypertensive drugs, particularly the ganglionic blocking agents, by at least 50 per cent when adding Aldactone since it may potentiate their action.

Adverse Reactions—Drowsiness, lethargy, headache, diarrhea and other gastrointestinal symptoms, maculopopular or erythematous cutaneous eruptions, urticaria, mental confusion, drug fever, ataxia, gynecomastia, mild androgenic effects, including hirsutism, irregular menses and deepening voice. Adverse reactions are infrequent and usually reversible.

Dosage and Administration—For *essential hypertension in adults* the daily dosage is 50 to 100 mg. in divided doses. Aldactone may be combined with a thiazide diuretic if necessary. Continue treatment for two weeks or longer since an adequate response may not occur sooner. Adjust subsequent dosage according to response of patient.

For edema, *ascites or effusions in adults* initial daily dosage is 100 mg. in divided doses. Continue medication for at least five days to determine diuretic response; add a thiazide or organic mercurial if adequate diuretic response has not occurred. Aldactone dosage should not be changed when other therapy is added. A daily dosage of Aldactone considerably greater than 75 mg. may be given if necessary.

A glucocorticoid, such as 15 to 20 mg. of prednisone daily, may be desirable for patients with extremely resistant edema which does not respond adequately to Aldactone and a conventional diuretic. Observe the usual precautions applicable to glucocorticoid therapy; supplemental potassium will usually be necessary. Such patients frequently have an associated hyponatremia—restriction of fluid intake to 1 liter per day or administration of mannitol or urea may be necessary (these measures are contraindicated in patients with uremia or severely impaired renal function). Mannitol is contraindicated in patients with congestive heart failure, and urea is contraindicated with a history or signs of hepatic coma unless the patient is receiving antibiotics orally to "sterilize" the gastrointestinal tract.

Glucocorticoids should probably be given first to patients with nephrosis since Aldactone, although useful for diuresis, will not directly affect the basic pathologic process.

For *children* the daily dosage should provide 1.5 mg. of Aldactone per pound of body weight.

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Contraindications: Glaucoma, urinary bladder neck or pyloric obstruction, duodenal obstruction and cardiospasm. Hypersensitivity to any of the ingredients.

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Precautions: Administer with caution to persons with known idiosyncrasy to atropine and cardiac disease. While under this therapy the urine is blue; patients should be so advised to allay apprehension.

Adverse Reactions: Neither irritation nor untoward reactions have been reported; however, if pronounced dryness of the mouth, flushing, or difficulty in initiating micturition occurs, decrease dosage. If rapid pulse, dizziness or blurring of vision occurs, discontinue use immediately. Acute urinary retention may be precipitated in prostatic hypertrophy.

Dosage and Administration: Adults: Two tablets, orally, four times per day, followed by liberal fluid intake. Older children reduce dosage in proportion to age and weight.

How Supplied: Bottles of 50, 500 and 1,000 tablets.

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Dr. Joseph Ioor Waring — A Tribute

After a long and distinguished career as Editor, Dr. Joseph Ioor Waring has relinquished this responsibility. For more than seventeen years he gave to the *Journal* unstintingly of his great store of clinical knowledge, medical history and patient common sense. It is no easy task to fill each issue of a scientific magazine with worthwhile articles, but Joe Waring knew how to literally "beat the bushes" for material. A pediatrician by aptitude and training, he enjoyed an extensive acquaintance and friendship with fellow physicians of every discipline. He was thus able to call on members throughout the Association when material was needed for publication.

Dr. Waring is a gentleman of many talents, but his special love is history, not only medical history but the history of his native state and its people. He has long been the moving spirit behind Charleston's distinguished Medical History Club, a delightful group whose members read and discuss original papers on some phase of medical history or biography, ending with refreshments and a social hour. Every reader of this *Journal* is familiar with his monumental three volume *History of Medicine in South Carolina.*

Dr. Waring is an active member of the Caroliniana Society, the South Carolina Historical Society, and has recently accepted the editorship of the *South Carolina Historical Magazine,* where his talents will still be put to valued use.

A list of Dr. Waring's professional honors would fill another page, but since this is a tribute to him as an editor and historian, they are not included here. Sufficient to record that he is a Charlestonian steeped in history and literature, who, all his life, has employed his considerable talents to the advantage of his profession and his state.

Chapman J. Milling, M.D.

ACTIONS OF THE HOUSE DELEGATES OF THE SOUTH CAROLINA MEDICAL ASSOCIATION 122 ANNUAL MEETING — MAY 11-13, 1970

WILLIAM L. PERRY, M. D., PRESIDING

The following actions were taken. The House recognized with applause the presence of Dr. W. R. Wallace at his 50th meeting of the Association.

The amendment to direct that the president of the Medical University of South Carolina be a member ex-officio of the House of Delegates was passed after some discussion.

A resolution of the Dorchester County Medical Society was adopted as follows:

"Be it resolved that the corporate body of Blue Shield immediately stop the practice of metro, suburban and rural fees, and the customary and usual charge plan. In their place, a relative value system be developed and used on an every doctor basis."

The resolution of the Charleston County Medical Society concerning the establishment of a Department of Family Practice at the Medical University was adopted as follows:

"Be it resolved that the South Carolina Medical Association commend the Medical University for this action and encourage all physicians to give their wholehearted support to this program."

Another resolution reading "Be it resolved, that the South Carolina Medical Association initiate an educational program of broad scope to educate the public in matters of health care, especially in regard to the alternate systems of medical care" was passed.

The Columbia Medical Society offered these resolutions:

1. "Therefore, be it resolved that the Columbia Medical Society go on record as approving and seek appropriate action through the South Carolina Medical Association and through the Legislature of South Carolina to ensure that hospital insurance suppliers provide outpatient benefits for procedures which are covered at the present time only for in-patients." This was not passed.

2. "Therefore, be it resolved that the Board of Directors of Blue Shield instruct the Administrators of the Blue Shield Plan that they will in the future honor Assignment of Benefit forms if properly signed by the individual patient."

3. "Be it resolved that all future advertising of Blue Cross-Blue Shield, soliciting subscribers in the age group over 65, include clear statements indicating that Blue Cross-65 will *not* provide full coverage to persons entering hospitals not participating in Medicare, and also give information about the availability of Blue Cross-Blue Shield contracts providing more appropriate coverage."

4. "Be it resolved that Blue Shield shall publish annually in the *Journal of the South Carolina Medical Association* a comprehensive financial report, including operating expenses, advertising expenditures, unallocated surplus, executive salaries, and any other data which may be requested by the Corporation of Blue Shield from time to time."

5. "Therefore, be it resolved that (a) the South Carolina Medical Association endorse the Relative Value Schedule as the approved method of determining a usual and customary vendor charge for payment by patient and both private and governmental third-party payors, and further, that (b) all fee negotiations be on the basis of Relative Value Schedule, and that (c) the appropriate conversion factor for Blue Shield usual and customary fee to be determined by representation from the different medical societies." This was not passed.

The other resolutions were passed.

The Greenville County Medical Society offered the following: "Resolved, that the present policy of the American Medical Association on abortion be rescinded; and be it further

Resolved, that the American Medical Association go on record as recommending the repeal of all state abortion laws (except those restricting abortion to qualified physicians) so that all women, for whatever reason, can have abortions performed under safe, healthful conditions by qualified practitioners of medicine." After much discussion this was adopted.

The Florence County Medical Society presented this resolution: "Be it hereby resolved, that we continue to ask for more nurses to be trained as practical nurses, associate degree nurses, three-year diploma nurses, and B. S. degree nurses". This was adopted.

The Charleston Delegation offered the following:

Be it resolved, that the House of Delegates of the AMA instruct the Board of Trustees to initiate at once remedial measures to clarify the meaning of the expressions "medical care" and "health care" and to insure their correct usage in all official publications of the American Medical Association; and Be it further resolved, that such action be a continuing one under the direction of the Executive Vice-President designed to correct the terminology of the lay press and enlighten the understanding of the public." (This was the Resolution that was passed by AMA.)

"Whereas, it appears that this directive has not been

adequately implemented, as has recently become most evident not only in the American Medical Association's limited participation in the CBS program—"Don't Get Sick in America"—but even in the short video tapes prepared and distributed by the American Medical Association to counteract the effects of the two CBS programs; therefore

Be it resolved, that the House of Delegates of the South Carolina Medical Association affirms its belief in the critical importance of distinguishing between the terms "health care" and "medical care"; and

Further be it resolved, that the House of Delegates hereby instructs its Delegates to the AMA to introduce at the Annual Meeting of the AMA in June, a suitable Resolution again calling upon the officers and staff of AMA to implement fully the Resolutions quoted above in the first Whereas." This resolution was adopted.

The Chester Society proposed a resolution referring to a deficit of coverage by Medicare and Medicaid of totally and permanently disabled patients under age 65. This was accepted as information.

Dr. Hope, chairman of Council, reported that "At a recent meeting of the State Legislature, a State Board of Examiners for Nursing Home Administrators was formed. The Council yesterday nominated three men for this Board to be passed on by the House of Delegates. These three men are Dr. Dexter B. Rogers, Dr. James A. McQuown and Dr. William W. Bowen." He continued with a report on a resolution of Council. One other Resolution that was brought to Council by the Columbia Medical Society was brought in two parts to be passed on to the House of Delegates. These Resolutions were passed by Council.

First, "an Executive Assistant to be recommended by Mr. Meadors is to reside and have his headquarters in Columbia in an office shared with the Columbia Medical Society in the Department of Mental Health." The second one is "that the Executive Offices of the South Carolina Medical Association be moved from Florence to Columbia as expeditiously as possible and not later than 1975."

Dr. Strother Pope offered a resolution for the S. C. Vascular Surgical Society as follows: ". . . It is the contention of members of the South Carolina Vascular Surgical Society that customary charges of the physicians doing vascular surgery have not been compiled and used by the carrier in arriving at the 'allowed charges' in the past few months for vascular surgical procedures. It is requested that Blue Cross-Blue Shield, as carrier for Medicare, make available for inspection by the surgeons of South Carolina the figures and methods used in determining 'allowed charges' for Medicare patients." This was disapproved.

Dr. Hope presented the following:

"Special Intern-Resident Membership

By authority of the House of Delegates, this special class of non-voting membership without dues is established to be bestowed on application from any who is eligible within its definition with no requirement of County Society membership, although County membership will be permissive.

This membership is limited to those persons taking official intern or residency training in a hospital located in South Carolina which has been approved by the American Medical Association for intern-residency training. Membership for each such individual will expire immediately upon completion or termination of internship or residency training in a South Carolina Hospital or earlier, at the discretion of Council of The South Carolina Medical Association."

"Special Student Membership

By authority of the House of Delegates a student non-voting membership of prelicensed student physicians without dues is established and bestowed upon all eligible within its definition who wish to apply for membership. This class of membership is limited to such prelicensed student physicians attending a recognized School of Medicine located in South Carolina. Membership for each such individual will expire immediately upon completion of training or attendance in such institution or earlier, at the discretion of Council of The South Carolina Medical Association."

In connection with these, the interns, residents and medical students will be eligible to participate in the South Carolina Medical Association's Insurance Program.

Dr. Charlton Armstrong of Greenville presented a resolution concerning the distribution of medical services based on a resolution presented by the Florida Medical Association to the Florida legislature. This proposed a scholarship loan fund. The resolution was received as information.

Dr. Hawk proposed a rearrangement of the terms of the delegates. (i.e. that delegates and alternates begin their duties immediately upon election.) This motion was tabled.

Dr. Hugh Wells asked for the position of the House on the merger of the State Health and Welfare Departments and requested endorsement of the Forensic Medical Examiners Bill. The opposition to the merger was reiterated. A committee to work with the Coroners Association on the Examiners Bill was created.

Dr. Goldsmith reported the history of the Benevolence Fund, as follows:

"It was resolved that the South Carolina Medical Association establish a Benevolence Fund to aid members who have become incapacitated by reason of infirmities or health and their dependent widows and children. The fund to apply to members meeting the qualifications; also that a permanent committee of members (that is, the members of the State Association) be set up to administer the fund.

Under Part 2 (By-Laws), Chapter 8 Benevolence Fund Committee. It shall be a permanent committee of three (3) members to serve three (3) years staggered so that there will be continuity. This com-

mittee shall administer funds to a beneficiary after he has been determined eligible. Rules and regulations to be made by the committee. A member having served the three (3) years shall not be eligible for re-election until the expiration of one (1) year. (This is the part that is not understood by so many.) Council shall nominate two (2) men to be presented to the House of Delegates for election of one (1) member to serve a term of three (3) years." Then the rules and regulations that the Committee set up to carry out this was that a man has to be practically indigent or disabled and they have to apply to the Committee — either them or some of the members of the family can — and it has to be investigated and they have to get a report from the welfare agent in the county in which the man lives and then that is furnished to the committee and they take action, so that the committee will know whether or not to recommend a man or some of his dependent family for aid." A motion was passed to make this a permanent committee.

The House heard the reports of officers, received for information. (Published in earlier *Journals.*)

The Treasurer's report follows:

JANUARY 1, 1969 — DECEMBER 1, 1969

REVENUE

JOURNAL		
Advertising	$26,038.00	
Subscriptions	5,367.35	
Total Revenue from Journal		$ 31,405.35
GENERAL		
State Dues	$59,509.75	
Commission on Collection AMA Dues	1,003.80	
Commission on Collection SCALPEL Dues	44.80	
Benevolence Fund	477.50	
Miscellaneous	453.25	
Total General Revenue		$ 61,489.10
Total Income from Investments		10,673.07
TOTAL REVENUE		$103,567.52
PERMANENT HOME FUND		$ 7,913.75

EXPENSES

JOURNAL		
Printing	$ 23,481.25	
Editor's Expense	556.91	
Salaries:		
Editor	3,000.00	
Secretary	1,100.00	
Adv. Mgr.	1,000.00	
Total Journal Expense		$ 29,138.16
EXECUTIVE OFFICE		
Rent	$ 2,400.00	
Office Supplies	1.774.79	
Exec. Sec'y Travel & Expense	2,369.99	
Salaries	36,792.50	
Total Executive Office Expense		$ 43,337.28
SECRETARY		
Clerical Help	$ 900.00	
Total Secretary Expense		$ 900.00
COMMITTEE ON PUBLIC RELATIONS, J. I. WARING, CHM.		
Chairman's Salary	$ 600.00	
Chairman's Expense	212.04	
Secretary	600.00	
Total P. R. Committee Expense		$ 1,412.04
GENERAL EXPENSE		
Delegates' Travel & Expense	$ 2,632.80	
Other AMA Meetings Travel Expense	600.02	
President's Expense	1.500.00	
Treasurer's Expense	100.00	
Telephone & Telegraph	2,664.52	
Postage	2,517.33	
Insurance	2,180.30	
Newsletter	779.85	
Accounting & Audit	1,397.50	
Taxes	2,348.17	
Medico-Legal	500.00	
State Meetings	456.40	
Woman's Auxiliary Appropriation	2,210.00	
Woman's Auxiliary Bulletin	2,714.59	
Retirement & Pension Plan	3,855.98	
Public Health Information Committee	238.63	
Miscellaneous Committee Expense	723.86	
Benevolence Fund	900.00	
Miscellaneous	1,280.66	
Interest	186.39	

Hospitality Room	958.84	
Delegate to Student AMA	300.00	
President's Gift	200.00	
Total General Expense		$ 31,245.84
TOTAL EXPENSES		$106,033.32
INCOME FROM INVESTMENTS		
GENERAL FUND:		
Peoples Federal Savings & Loan Ass'n, Florence		$ 774.87
Dividends Reinvested (Investors Mutual Fund)		5,296.64
		$ 6,071.51
Permanent Home Fund (See below)		4,601.56
Total Income from Investments		$ 10,673.07
INVESTMENTS		
GENERAL FUND:		
Peoples Federal Savings & Loan Ass'n, Florence		$ 15,469.26
Investors Mutual Fund (Value as of April 22, 1970 — 6,833.878 shares @ $9.17 — $62,666.66)		74,870.62
Total General Fund		$ 90,339.88
PERMANENT HOME FUND:		
Aiken First Federal Savings & Loan Ass'n, Aiken		$ 12,528.96
Security Federal Savings & Loan Ass'n, Aiken		12,527.57
Anderson Savings & Loan Ass'n, Anderson		12,562.20
First Federal Savings & Loan Ass'n, Anderson		12,565.84
Home Building & Loan Ass'n, Orangeburg		12,538.20
Pickens Building & Loan Ass'n, Pickens		12,317.52
*First Carolina Fed. Savings & Loan Ass'n, Columbia		14,642.49
Total Permanent Home Fund (This includes Interest earned in 1969 of $4,601.56)		$ 89,682.78

*This amount includes $7,913.75 collected for PHF in 1969.

ITEMS HANDLED WHICH ARE NOT REVENUE

AMA-ERF	$ 4,490.00
AMA Dues	101,640.00
County Dues	600.00
SCALPEL Dues	5,105.00

There are several matters that I want to bring to the attention of our Delegates.

This financial statement does not reflect the increase in dues since the increase is only in effect this year.

Secondly, with the reinvestment of dividends from our mutual funds ($5,296.64) which is included as receipts — the total expenditure for the year 1967 was $106,033.32 and income (minus the dividends) was $92,894.45. Therefore, I submit to you that in 1969 your Association exceeded its revenues by $13,138.87.

The Treasurer's office operates basically as a part of the business office of the Association. The economic impact for the Association is understandable. Finally, my personal thanks to a fine President, Dr. Perry and Officers and lovable Secretary, Dr. Pope and to Council as a group and my very personal and sincere thanks to Mr. M. L. Meadors for his complete dedication to our Association and his assistance to our office and to his lovely and overworked office staff, Mrs. Gaymon, Mrs. Elmore, and Mrs. White.

Dr. Cain reported on medical and hospital insurance contracts.

The Committee on Constitution and Bylaws recommended:

"Our Committee concurs with our President's recommendation that we elect a speaker and vice speaker of the House of Delegates. The necessary amendments to the Constitution and By-Laws to carry out this recommendation and proposed at this time, to lie on the table for one year and to be voted on, with the necessary amendments to the By-Laws at the Annual Session in 1971. The Speaker and Vice-Speaker shall be elected for terms of two years each and shall be permitted to serve not more than two consecutive terms. The Speaker and Vice-Speaker shall be members of the House of Delegates and members of Council but without the power to vote." This will lie on the table. The committee also reported that "Our committee acted favorably on including in our membership student members, interns and residents, and necessary amendments to the Constitution to carry this out are proposed at this time." This also would lie on the table for one year.

The Committee on Insurance recommended a resolution as follows: "Concerning the resolution presented by the Charleston County Medical Society regarding the Medical Director of Blue Shield not also serving as a member of the Board, the Committee recommends approval of this resolution with the addition to Section 8 of the By-Laws of Blue Shield as stated in the resolution. Thus, Section 8 will read as follows: "Directors as such shall not receive any stated salary for their services; but by resolution of the Board, a reasonable fixed sum and expense of attendance if any may be allowed for attendance at Board meetings. A Director may not serve the corporation in any salaried capacity (e.g. Medical Director), but may receive specified remunerations for service on special committees or reviewing bodies." Passed.

Another resolution was passed after amendments

to allow members of the Association other than Councillors to participate. This reads as follows: "Be it resolved, that a Committee of Council be appointed to study the feasibility of a negotiated fixed-fee schedule or a relative value system and eliminate the usual and customary fee schedule."

A recommendation of the Committee was passed: "In reference to the resolution presented from Columbia Medical Society on assignment of benefits to non-participating physicians, the Committee recommends disapproval of this resolution; however, the Committee believes that a recommendation should be sent to Blue Shield's Board of Directors to institute a program that will notify the non-participating physicians that payment has been made to his patient. This is in progress by the Blue Shield Administration at the present time and we understand that this will be carried out."

BLUE SHIELD CORPORATION

Directors were elected as follows: Mr. Adair Crawley of Columbia; Mr. W. R. Bruce of Columbia; Dr. J. D. Cilland of Conway; Dr. Malcolm L. Marion of Chester and Mr. Raymond Pridgen of Mullins.

A request that lists of participating physicians be made available to insured groups was rejected.

The Ad Hoc Committee on Peer Review reported the following: "The Ad Hoc Committee on Peer Review presents the following recommendations to the Council of the South Carolina Medical Association and suggests that if approved by Council, (or as amended by Council) that they be presented to the House of Delegates at its final meeting on Wednesday, May 13, 1970, for final action.

"(1) A single Peer Review Committee shall be established by the South Carolina Medical Association to consider all cases referred to it relating to the appropriateness of professional services and/or fees rendered by a physician to a patient or group of patients, and any action by any third party referable to these services and fees.

"(2) The Peer Review Committee shall be composed of ten members of the South Carolina Medical Association, one from each medical district and one elected at large. They shall be elected by the House of Delegates from nominees submitted by Council. Council shall submit two nominees for each position on the Peer Review Committee. Not more than one nominee may come from any one county. Council shall determine from each nominee his willingness to serve, prior to submission of his name to the House. The term of office shall be three years(may have to be more or less initially in order to coincide with terms of councillors), and no member may serve more than two consecutive terms. The terms of the district representatives shall be staggered by having them coincide with the terms of the Councillors of their respective districts.

"(3) The Peer Review Committee shall choose its own chairman at its first meeting at or after the Annual Meeting of the South Carolina Medical Association each year. No member may serve as Chairman for more than two consecutive years.

"(4) The Peer Review Committee, at its inception, shall meet once each month at a prearranged time and place. At the end of the first 3 months, it shall review its work-load and experience and shall report to Council its recommendations for frequency of meetings in the future.

"(5) Any vacancy on the Peer Review Committee shall be filled by an appointee of Council. At the next Annual Meeting of the House of Delegates, Council shall present to the House the name of this appointee together with one additional nominee, for election to fill the remainder of any unexpired term.

"(6) Requests for review of cases will be accepted by the Committee from the following:

(a) Any physician who is a member of the S. C. Medical Association.

(b) Any patient, either directly or indirectly through a person or persons properly authorized by him to represent his interests.

(c) Any third party concerned with provision of, or payment for, medical care.

"(7) After complete review of a case, the Peer Review Committee shall make an official recommendation to the parties concerned. Each party involved in any case shall be notified when the case is to be considered and shall have the right to submit any information, documentation or other material and to appear before the Committee. In any case in which after preliminary review of the case, the Committee determines that its recommendation will be unfavorable to the physician, the physician will be so notified and shall have the right to appear before the Committee before final decision and recommendation are made.

"(8) Each of the organized specialty societies in the State shall be invited to designate 1 member (with 1 alternate) as Consultant to the Peer Review Committee. The Committee itself or any of the parties involved in a specific case may request that the appropriate Consultant give an opinion in writing on a case or appear at the Committee hearing at which the case is to be discussed.

"(9) Committee members and Consultants shall be remunerated for travel expenses at the rate of ten cents per mile and shall receive a per diem for each meeting attended. The Chairman shall receive $50.00 a month to cover secretarial expenses, and shall be entitled to the use of a telephone credit card to cover telephone expenses.

"(10) Any party involved in any case may appeal the decision and recommendation of the Peer Review Committee to the Mediation Committee of the S. C. Medical Association." Like we say, we hope that these will be very few in number but we did feel we should have a final court of appeal to the Mediation Committee.

"(11) The S. C. Medical Association shall take the necessary steps to secure legal protection and insurance coverage for the Association and for each Committee member Consultant.

"(12) At the conclusion of 9 months of operation, the Peer Review Committee shall report to Council its recommendations for the future operation of the Committee. Council shall then direct appropriate persons to prepare By-Laws to the Constitution of the S. C. Medical Association necessary to establish the Peer Review Committee as a permanently designated Committee of the S. C. Medical Association.

"(13) Because of the limitations of time at this meeting to secure suitable nominees definitely willing and committed to serve on the Peer Review Committee, Council requests from the House of Delegates authority to make temporary appointments of the members of the initial committee, with the stipulation that at the 1971 Annual Meeting of the S. C. Medical Association, Council shall present 2 nominees for each position on the Committee, 1 of whom shall be the temporary appointee, who has served during the year. All terms of office shall be related to the terms of Councillors (Paragraph 2) as of 1970."

This is the Report which was accepted by Council this morning and it has been modified in several respects and to get it on the floor for discussion, I will move the adoption of this Report including the necessary authorizations given to Council in it. This was adopted.

Officers of the Association were elected. (Published in an earlier *Journal.*) Those elected to the Mediation Committee and the State Board of Health are as follows: Mediation Committee members are: Dr. Guy C. Heyl, Jr., 2nd District; Dr. Max A. Culp, 5th District; and Dr. John W. Rheney, Jr., 8th District. The elected State Board of Health members are: Dr. John B. Martin, Dr. William H. Hunter, Dr. R. W. Hanckel, Dr. W. Wyman King, Dr. Winston Y. Godwin, Dr. Keitt H. Smith and Dr. J. Howard Stokes.

The Secretary presented Dr. William Perry, president, and Dr. Anthony White, vice president, with Certificates of Merit.

A motion that the 1971 meeting be held at the Myrtle Beach Convention Center was referred to Council.

Adjournment.

J. I. W.

Westbrook

Psychiatric Hospital, Inc.

Richmond, Virginia

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Chairman, Advisory Group

JOHN R. SAUNDERS, M. D.
Medical Director

THOMAS F. COATES, JR., M. D.
Assistant Medical Director

OWEN W. BRODIE, M. D.
Associate in Psychiatry

M. M. VITOLS, M. D.
Associate in Psychiatry

NEUROLOGY

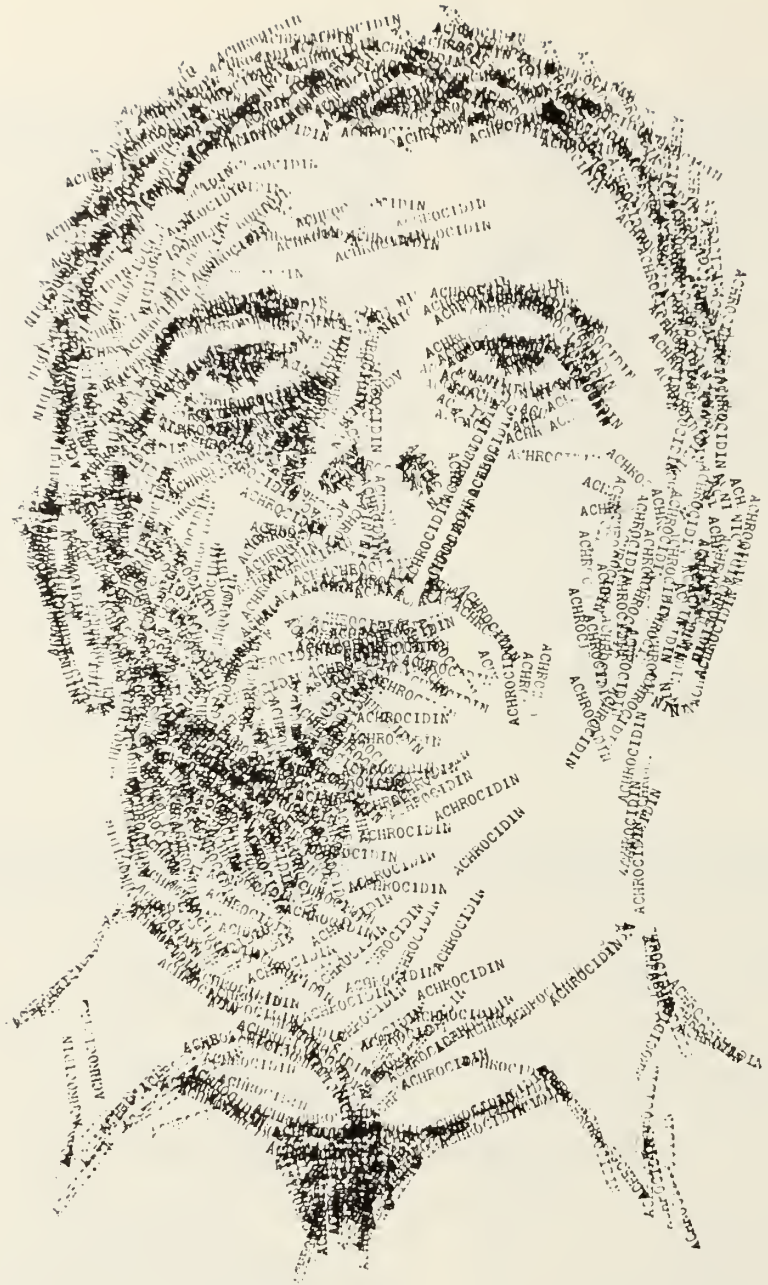
GERALD W. ATKINSON, M. D.
Associate in Neurology

CHILD PSYCHIATRY

GILBERT SILVERMAN, M. D.
Associate in Child Psychiatry

ADMINISTRATION

ROBERT H. CRYTZER
Administrator



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Each tablet contains: ACHROMYCIN® Tetracycline HCl 125 mg.; Phenacetin 120 mg.; Caffeine 30 mg.; Salicylamide 150 mg.; Chlorothen Citrate 25 mg.

ACHROCIDIN Tetracycline HCl—Antihistamine—Analgesic Compound Tablets and Syrup are recommended for the treatment of tetracycline-sensitive bacterial infection which may complicate vasomotor rhinitis, sinusitis and other allergic diseases of the upper respiratory tract, and for the concomitant symptomatic relief of headache and nasal congestion. For children and elderly patients you may prefer caffeine-free ACHROCIDIN Syrup. Each 5 cc contains: ACHROMYCIN Tetracycline equivalent to Tetracycline HCl 125 mg.; Phenacetin 120 mg.; Salicylamide 150 mg.; Ascorbic Acid (C) 25 mg.; Pyrilamine Maleate 15 mg.

Contraindications: Hypersensitivity to any component.

Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.

Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

Upon adverse reaction, stop medication and treat appropriately.

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535-9

The girth control pill



Tepanil® Ten-tab
(continuous release form)

(diethylpropion hydrochloride)

works on the appetite not on the 'nerves'

When girth gets out of control, TEPANIL can provide sound support for the weight control program you recommend. TEPANIL reduces the appetite—patients enjoy food but eat less. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation.

Contraindications: Concurrently with MAO inhibitors, in patients hypersensitive to this drug; in emotionally unstable patients susceptible to drug abuse.

Warning: Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovascular disease. Do not use during first trimester of pregnancy unless potential benefits outweigh potential risks.

Adverse Reactions: Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence. As is characteristic of sympathomimetic agents, it may occasionally cause *CNS effects* such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported. Sympathomimetic *cardiovascular effects* reported include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others. *Allergic phenomena* reported include such conditions as rash, urticaria, ecchymosis, and erythema. *Gastraintestinal effects* such as diarrhea, constipation, nausea, vomiting, and abdominal discomfort have been reported. Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia. A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

Convenience of two dosage forms: TEPANIL Ten-tab tablets: One 75 mg. tablet daily, swallowed whole, in midmorning (10 a.m.); TEPANIL: One 25 mg. tablet three times daily, one hour before meals. If desired, an additional tablet may be given in midevening to overcome night hunger. Use in children under 12 years of age is not recommended.

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THE NATIONAL DRUG COMPANY
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Painful night leg cramps...

unwelcome bedfellow for any patient– including those with arthritis, diabetes or PVD

One thing patients can sleep without, particularly patients with chronic disease conditions such as arthritis, diabetes or PVD, is painful night leg cramps. Although seldom the presenting complaint, night leg cramps can tie your patients up in painful knots. Now, just one tablet of QUINAMM at bedtime can usually bring an end to shattered sleep and needless suffering. Your patients will sleep restfully—gratefully—with QUINAMM, specific therapy to prevent painful night leg cramps.

Prescribing Information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Precautions/Adverse Reactions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastraintestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

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Quinamm™ Specific therapy for night leg cramps
(quinine sulfate 260 mg., aminophylline 195 mg.)



Dr. Jack W. Chandler of Greenville was elected to Fellowship in the American Academy of Pediatrics at a recent meeting of the AAP Executive Board in Evanston, Illinois. **Dr. James F. Graham, Jr.,** is now associated with **Dr. Ira Barth** in the general practice of medicine at Marion. Dr. Graham has recently completed a tour of duty in the Air Force and was graduated from Bowman Gray School of Medicine. **Dr. Boyce G. Tollison** has become associated with **Drs. Jameson, White, Mann and Brice** in the general practice of medicine at the Medical Center in Easley. Dr. Tollison is a graduate of the Medical University of South Carolina and interned at Greenville General Hospital.

Dr. Robert Kindley has joined **Dr. James O. Morphis, Jr.,** in the practice of pediatrics at 808 Carolina Avenue in Hartsville. Dr. Kindley has just completed a tour of duty with the U. S. Air Force. He graduated from the Medical School at the University of North Carolina, interned at Vanderbilt University, and served his residency in pediatrics at North Carolina Memorial Hospital, Chapel Hill. He is certified by the American Board of Pediatrics. **Dr. Lee J. Knight** has relocated his office for the practice of Pediatrics in the Palmetto Medical Arts Building, Palmetto Shopping Center, Charleston Heights.

Dr. Arthur Manigault LaBruce has announced the opening of his office for the specialty of otorhinolaryngology at 107-F Ashley Avenue in Charleston. **Dr. Theodore W. Mappus, Jr.** of New Ellenton has been re-elected to active membership in the American Academy of General Practice. **Dr. Daniel W. Brake** has announced his association with **Drs. Richard H. Rush and LaRue M. Medlin** for the practice of family medicine in Conway. **Dr. Warren F. Holland, Jr.,** has begun the practice of internal medicine and cardiology in association with **Drs. H. H. DuBose, James C. Vardell, Jr., and Ambrose G. Hampton, Jr.,** at 2749 Laurel Street, Columbia.

Dr. E. Cantey Haile, Jr. has returned to Columbia to open an office for the practice of otolaryngology at 1707 Brabham Avenue. He is a graduate of the Medical University of South Carolina and did his residency at the Medical College of Virginia. **Dr. William T. Leslie** has been named chief of the Medical Assistance Division of the Welfare Department.

Dr. Frank D. McDonald has been appointed chief of the Audiology and Speech Pathology Clinic for the Columbia Veterans Administration Hospital. **Dr. James S. McIlwain** has become associated with **Dr. H. A. Moskow** in the practice of family medicine in Denmark. **Dr. T. S. Whittle** has entered the practice of general medicine in West Columbia and is temporarily associated with **Dr. William F. Ward** at 3114 Platt Springs Road. **Dr. William C. Cantey** and **Dr. E. C. Kinder** of Columbia have announced the association of **Dr. John W. Brown** for the practice of general, thoracic and cardiovascular surgery.

Dr. Robert J. McCardle has begun the practice of cardiovascular, thoracic, and general surgery in association with **Dr. Daniel W. Davis, Jr.,** at 2753 Laurel Street in Columbia. **Dr. Delilah Turpin,** former head of the cystic fibrosis clinic at Emory University, will head the cystic fibrosis clinic to be established at the Greenville General Hospital. **Dr. Lawrence L. Hester, Jr.,** of the Medical University of South Carolina will be one of the guest speakers at the University of Florida College of Medicine Seminar in Obstetrics and Gynecology on November 19-20.



Medical University of South Carolina



The appointment of **Dr. Joseph C. Ross** to the post of Chairman of the Department of Medicine at the Medical University of South Carolina was announced by Dr. William M. McCord, President. Dr. Ross graduated from Vanderbilt University School of Medicine and did his internship at Vanderbilt University Hospital. He served as a resident at Duke University and has been at Indiana University School of Medicine since 1958.



Dr. J. F. A. McManus, after serving as executive director of the Federation of American Societies for Experimental Biology, Bethesda, Maryland, has been appointed Dean of the College of Medicine at the Medical University. Dr. McManus received his M.D. degree from Queen's University, Kingston, Canada, and also studied at Johns Hopkins Hospital, Cornell University – New York Hospital and Oxford University, England. He has taught at the University of Alabama, the University of Virginia, and at Indiana University.



Dr. John A. Moncrief, a surgeon widely known for his work in the treatment of burns, has assumed the post of professor and vice chairman of the Department of Surgery at the Medical University of South Carolina. Dr. Moncrief was in charge of the Army Burn Center at San Antonio and moved to Charleston from San Antonio, Texas, where he was chief of the Department of Surgery at Santa Rosa Medical Center.

Dr. Lewis Barnett of Woodruff and **Dr. Gavin Appleby** of St. George have been named associate professors of family medicine and have begun duties in the new Family Practice Department of the Medical University of South Carolina. **Dr. Hiram B. Curry** is chairman of the department. All three faculty members are certified by the American Board of Family Practice.

Our Old Printer Returns

We trust that this number of the *Journal* will make a better appearance than have the preceding issues. Printing difficulties have been considerable. We now return to a printing firm which handled the production of the *Journal* for many years in a very satisfactory manner. It is good to renew old acquaintance with the Provence-Jarrard Company of Greenville.

J.I.W.

NUTRITION PROBLEMS IN SOUTH CAROLINA

MALCOLM U. DANTZLER, M. D.

In recent years, considerable public attention has been given to reports of widespread malnutrition in South Carolina and its sister states. Based on these reports, some have called for immediate action to feed those in need, others have called for scientific surveys to measure the extent of the need. This is a preliminary summary of recent activities in South Carolina toward both of these goals.

A well-written national review based on data collected in 1967 and 1968 which included references to conditions in South Carolina was that of the Citizens' Board of Inquiry into Hunger and Malnutrition in the United States, entitled "Hunger, U.S.A.".[1] A more detailed description of poverty and malnutrition in South Carolina is in the printed report of the hearings before the Select Committee on Nutrition and Human Needs of the United States Senate in February 1969.[2]

In his opening statement before the McGovern Committee, Senator Hollings told of visiting a household of 16 persons in Beaufort County which had no lights, no heat, no running water, no bath, no toilet. All the food in the house was a slab of fatback, a jar of oysters, and a stick of margarine. He said that a man in the house was tentatively diagnosed as having pellagra, a small child had rickets and another was recovering from scurvy. Senator Hollings told of a Beaufort family of 5 living on $40.00 a month and a family of 10 on $116.00 a month—30 to 40¢ per day per person. He said that he felt first priority should be given to providing aid to the destitute. He advocated food, housing, and education programs as the solution to malnutrition problems.[2]

South Carolina State Board of Health, Columbia, S. C.

Dr. E. J. Lease told the committee of his study of the relationship of intestinal parasites and nutritional status in the Bluffton-Hilton Head area, previously described in this journal.[3] Dr. James Carter, a combination pediatrician, parasitologist, and nutritionist of Vanderbilt and Meharry, then summarized his follow-up medical examination in December 1968 of the pre-school children studied by Dr. Lease. The hundred children were shorter and weighed less than the average for their ages. Twenty-six per cent had hemoglobin less than 10 grams per 100 ml. Thirty per cent had less than 20 mcg of vitamin A per 100 ml of serum. Two per cent had deficient blood levels of vitamin C and eight per cent of thiamine. Three had bone deformities compatible with rickets. Serum iron was below 40 mcg per 100 ml in 51 per cent. Fourteen per cent had low levels of folic acid. Forty-one per cent had distended abdomens, 18 per cent had pallor, 16 per cent had a smooth tongue, 28 per cent had cheilosis, 50 per cent had dental caries, and 30 per cent had periodontitis.[2]

Dr. Carter stated that these children would appear normal to the casual observer except for the distended abdomen, yet it was his opinion that significant numbers of them were seriously malnourished. He felt that an improved economic base was needed to give a better chance for health education programs directed toward improved nutritional status and parasite control. He recommended establishment of rural health centers which would combine family health services, family planning, and applied nutrition with supplemental feeding programs.[2]

Dr. Robert Coles, a research psychiatrist at the Harvard University Medical Center, next stated that American physicians are not pre-

pared by their education to find in the United States severe vitamin deficiency diseases, widespread parasitism, and high infant mortality rates. He said that he had found in Beaufort and Jasper Counties very much what he had seen countless times in ten years of work in the South, in Appalachia, among migrant farmers, and in urban ghettos. He summarized this as primary malnutrition associated with disease directly attributable to either lack of enough food or a poor quality of food. He had seen children with swollen bellies, signs of pellagra, arrested bone development, stunted growth, swollen and deformed joints, anemia, lethargy, irritability, and despondency. He emphasized that in Beaufort and Jasper Counties and in many other counties in the United States there are people who never see physicians, who are not getting any kind of medical care, who do not have the money to get medical care, and who are not getting enough food of the right kind.[2]

At about this point Senator Ellender interjected that he was not aware of any state in the Union which apparently made less effort at the local level to help such people than South Carolina, which was surprising since it was one of the 13 original states. Senator Dole added that the Federal Government could send 150 people into every county in America but, without local recognition of the problem and local willingness to cooperate, the Federal level could not do enough to really solve anything.[2]

On the third day of the hearings, DeQuincey Newman, State Director of the NAACP, testified that no county in South Carolina was devoid of the problems of hunger, malnutrition, and bad housing in both cities and rural areas. He added that welfare payments fall far short of providing basic physical necessities such as rent, food, medicine, and utilities. He stated that most of the shacks that the majority of the poor live in are not fit for human habitation, being without running water, toilet facilities, and adequate cooking and laundry facilities. The poor are not familiar with minimum hygiene standards. Most are not able to get to church or to attend public meetings because of their very poor financial circumstances. He felt house-to-house canvasses were necessary to bring information to these people.[2]

Other witnesses testified to inadequacies in the food stamp and school lunch program.[2]

Attached to the hearing report was an article from the *New Republic*[4] which quoted Dr. Milton Senn, professor of pediatrics at Yale, as describing the clinical picture in Beaufort County as not only one of malnutrition but of vitamin deficiency diseases which really aren't supposed to exist in this country. Press reports attached to the hearing document described similar poverty findings in Richland, Chesterfield, Greenville, and Anderson Counties.[2]

Since at least as far back as 1947, this *Journal* has published articles describing conditions of malnutrition in South Carolina. Recent studies have included those of Dr. Lease's group[5-7] and that of Drs. Price and O'Bryan.[8]

Considerable progress has been made in enhancing the nutritional status of the poor in South Carolina since the reports I have cited. Most striking is the growth of the food stamp program in which coupons good for food purchases are issued to the poor at a percentage of their face value which is related to the income and size of the family. Dillon County was first to enter this program in 1965.[9] By 1967, eleven counties were issuing coupons worth $150,000 to 4,400 families which included 21,246 persons.[9] In fiscal year 1968, 16 counties were providing $2,900,000 annually in food stamps benefitting 45,272 persons.[9] On July 1, 1968, South Carolina became the first State to have the food stamp program in every county when the General Assembly appropriated funds for administrative expenses.[9] Since then, the program has been greatly liberalized and in March, 1970, the stamps went to 46,982 families including 186,859 persons, and totalled $4.3 million dollars, of which $3.5 million was federal government subsidy[9] It is expected that 225,000 people will be helped by food stamps by July 1, 1970, and 275,000 by July 1, 1971.[9]

Even so, more than 800,000 South Carolini-



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ans eligible for food stamps are now passing up the opportunity to improve their nutrition through this joint federal-state program.[10] It is estimated that by July 1, 1971, from one to one and a quarter million South Carolinians will be eligible for food stamps.[10] The income test for food stamp eligibility is based on net income after taxes, utilities, medical, dental, and drug costs; or essentially on the amount of money the family has left for food and clothing.[10]

Another program aimed at getting food to the malnourished is the supplemental prescription food program for nutritionally needy pregnant and lactating women and for children under six who receive free medical care.[11] This program has been sponsored for about a year in South Carolina by the State Board of Health. It is much more difficult to administer because it requires medical evaluation of need and prescription of foods for those who need them and also actual warehousing and issuance of bulky foods. It is now operating in five counties (Allendale, Beaufort, Berkeley, Jasper, and Sumter). Inclusion of additional counties is being deferred pending a decision by the Department of Agriculture on possible conversion of this commodity distribution program to a food certificate program. Foods currently being distributed in this program include evaporated milk and dried skimmed milk, farina, corn syrup, fruit juice, dried eggs, canned meat or poultry, canned vegetables, dried potatoes, and peanut butter. As of April, 1970, commodities were being distributed to 3,384 South Carolinians out of a total of around 5,000 who have received foods.

Concomitant with efforts to make food more available to the poor has been the development of a grass-roots nutrition education program under the auspices of the Clemson University Extension Service. This involves employment and training of non-professional aides to visit homes in their community and teach women how to run their homes more efficiently, how to buy wisely, and how to prepare food properly. With the help of a federal grant, 156 workers have been hired in 14 counties.[10] Also contributing to better nutrition are the 85 homemakers in county welfare departments who can replace the housewife temporarily or part-time. The State Board of Health has employed a dietitian who is available at the attending physician's request to assist in the care of homebound patients. She is also a resource to the nurses and home health aides who provide the bulk of home health services.

Improvements are continuing in the school lunch and school breakfast programs. Congress is now considering a welfare reform bill which will greatly increase the number of families with children which are eligible for public assistance, including many with working fathers, and should considerably increase the cash available to the poor with children, the aged, the blind, and the severely disabled in South Carolina.

National, state, and local leaders have thus heeded the pleas for action to alleviate nutrition problems without waiting for a precise estimate of the size of these problems.

At the same time it was deciding on action, the Congress also directed the Health, Education, and Welfare Department to make a survey of the incidence and location of serious hunger and malnutrition and health problems incident thereto in the United States.[12] At that time, the extent of recorded medical knowledge about dietary intake and malnutrition among the poor in this country consisted of about 30 studies of the kind I have cited here – mostly of pregnant women and small children, mostly in limited areas.[1] Yet each of these studies reported significant malnutrition among the poor.

The Public Health Service had done 31 nutrition surveys in foreign countries and two among Indians in the United States. It was decided to pattern the National Nutrition Survey on these previous experiences, using a manual[13] developed for military surveys. It was also decided to begin the National Survey in ten States and to concentrate in the lowest quarter of 1960 Census enumeration districts according to median income.

South Carolina was one of the ten States selected and I was responsible for general supervision of the State survey. Homes were

selected at random and the occupants were invited to come to examination centers convenient to 101 enumeration districts scattered over 16 counties. At the examination centers they were given medical, dental, and anthropometric examinations, a wrist x-ray film, dietary and socioeconomic interviews and specimens of blood and urine were collected for biochemical analysis.

The field work was accomplished from October, 1969, through March, 1970. Our contract calls for us to furnish the Federal Government a set of edited punched cards recording 200 items of information about each family interviewed and 300 additional items about each individual examined in the survey, a total of some 1,800,000 facts. We are now completing the laboratory tests, the card punching, and editing the punched cards to achieve maximum accuracy. We are relying on the Federal agency to provide us with detailed computer analyses of our data and comparison reports from the other participating states. We hope to retain a duplicate set of punched cards from which supplementary information can be extracted. It will undoubtedly be many months before all the tabulations are completed.

Hand tabulations of our preliminary data indicate that the nutritional status of the poor people of South Carolina is similar to, yet different from, that of the poor people of Texas, Louisiana, and Central America, which are all the comparisons readily available to me.

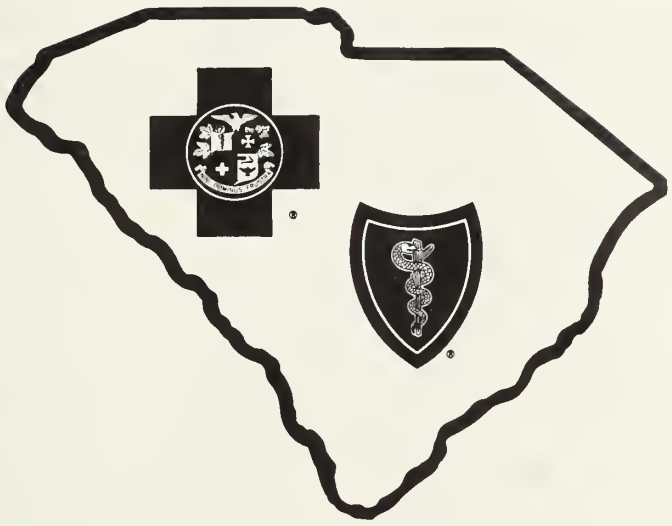
Dr. Walter Unglaub, Professor of Nutrition at Tulane and Director of the Louisiana survey, commented that while Louisiana's poor undoubtedly suffer most from the effects of malnutrition, there is too much malnutrition in families above poverty level.[14] Major nutritional problems encountered in Louisiana included evidence of growth retardation, fairly widespread anemia, inadequate intake of vitamins A and C, and poor dental health. Dr. Unglaub feels that the poor nutrition found was largely a matter of ignorance of nutritional information.

Dr. William McGanity, Professor of Obstetrics at Galveston, was Codirector of the Texas Survey. They found that poor children under six had growth rates six to nine months behind the average and followed the 16th percentile curve on the Iowa Growth Chart in heights and weight.[15] School age boys and girls surveyed rose to 40th percentile. Skin thickness was 20 per cent below average for children. The average age of menarche was 12.6 years, slightly above the American average. In adults, 40 per cent of women and 20 per cent of men were obese compared to 4 per cent of women and 6 per cent of men who were 20 per cent or more below standard weight for age and sex.

The survey guidelines[16] classify the biochemical findings into three groups: deficient, low, and acceptable. Comparing the percentages of our preliminary test results which were in the deficient group, we found that in hemoglobin, 7.5 per cent of 3,919 South Carolina poor were deficient; Texas had 3 per cent. In hematocrit, 6 per cent (of 4,164) in South Carolina were deficient; Texas had 4 per cent. In serum protein 0.3 per cent of 2,019 in South Carolina were deficient; Texas had 7 per cent. In serum albumin, it was South Carolina 0.6 per cent, Texas 3 per cent. In Vitamin C, it was South Carolina 0.8 per cent of 1,970, Louisiana 4 per cent, and Texas 4 per cent. In riboflavin, South Carolina 6 per cent, Texas 6 per cent. In thiamine, it was South Carolina 2 per cent, Texas 1 per cent. In vitamin A, South Carolina 5 per cent of 2,251, Louisiana 7 per cent, and Texas 2 per cent.

Comparing the percentages which were less than acceptable by combining the low and the deficient, we find that poor South Carolinians had 38 per cent less than acceptable in hemoglobin while Texas had 20 per cent, Louisiana 41 per cent, and Honduras 4 per cent. In vitamin A, it was South Carolina 22 per cent. Louisiana 15 per cent, Texas 41 per cent, Montana Indians 62 per cent, and Honduras 22 per cent less than acceptable. In vitamin C, it was South Carolina 3 per cent, Texas 12 per cent, Louisiana 14 per cent, and Panama 6 per cent.[14,15]

In serum protein, it was South Carolina 3 per cent, Texas 10 per cent, Montana Indians



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2 per cent, and Honduras 10 per cent. In serum albumin, it was South Carolina 8 per cent, Texas 19 per cent, and Montana Indians 3 per cent less than acceptable. In thiamine, South Carolina had 7 per cent of 1,981 specimens less than acceptable, compared with 10 per cent in Texas, 7 per cent in Montana Indians, and 49 per cent in Costa Rica. In riboflavin, 29 per cent of 2,163 South Carolina tests yielded less than acceptable values while Texas had 21 per cent, Montana Indians 16 per cent, and Guatemala 33 per cent.[15]

Perhaps the most significant new finding of the survey in South Carolina is that 67 per cent had low or deficient serum folate, 37 per cent had low or deficient red cell folate and 31 per cent had low or deficient serum iron. This points to anemia based on various degrees of combination of folic acid and iron dietary deficiencies as the most prevalent nutritional problem in South Carolina at present. Other findings included 27 of 4,838 urine samples positive for glucose and 3 per cent with less than acceptable levels of urinary iodine.

Analysis of the causes for these deficiencies will involve detailed study of the dietary and and socio-economic data. We plan additional reports of the survey findings as soon as the tabulations are completed.

It is obvious that South Carolinians have nutritional problems associated with poverty and with affluence, with inadequate and incorrect information about nutrition, and with an associated lack of motivation. The exact extent of all facets of malnutrition in South Carolina will probably never be known precisely. Action is not being delayed while additional facts are being tabulated. In addition to the economic and educational activities already under way, an even broader educational effort is needed. This should be comprehensive including more and better continuing instruction for health professionals, including nutrition specialists; for civic leaders, for the food service industry; for institutional personnel; and, most importantly, for the housewives who feed most of us and for the children who are our hope for the future.

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The project upon which this publication is based was performed pursuant to Contract No. HSM-110-69-378 with the Health Services and Mental Health Administration, Department of Health, Education, and Welfare.

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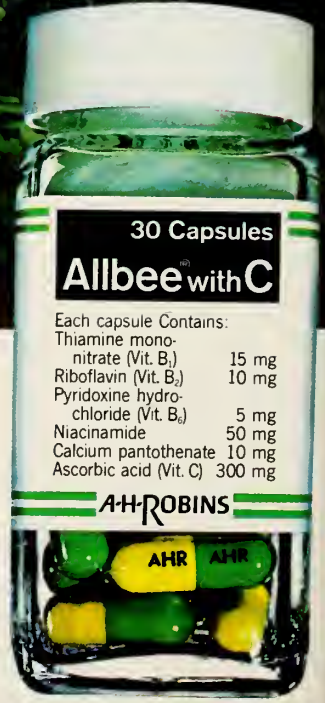
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District IV of the American College of Obstetricians and Gynecologists will hold its annual meeting in Charleston on October 18-21. A Postgraduate Program on Obstetric Anesthesia for obstetricians and family practitioners will be held at the Francis Marion Hotel prior to the start of the meeting. For further information, please contact Dr. Lawrence L. Hester, Jr., Medical University of South Carolina, 80 Barre Street, Charleston, S. C. 29401.

The University of Florida College of Medicine, Gainesville, will hold a Seminar in Obstetrics and Gynecology on November 19-20. Dr. Lawrence L. Hester of the Medical University of South Carolina will be one of the speakers.

The University of Miami School of Medicine will present a postgraduate course entitled "Otolaryngology for the Family Practitioner." The course will be held November 13-14 at the Sheraton Four Ambassadors Hotel in Miami and is accredited by the AAGP.

The American Board of Family Practice announces that it will give its second examination for certification in various centers throughout the United States on February 27-28, 1971. Information regarding the examination and eligibility can be obtained from Nicholas J. Pisacano, M. D., Secretary-Treasurer, American Board of Family Practice, Inc., University of Kentucky Medical Center, Annex #2, Room 229, Lexington, Kentucky 40506. Deadline for receiving applications is November 1.

The 77th Annual Meeting of the **Association of Military Surgeons of the United States** will be held at the Washington Hilton Hotel on November 29-December 2. The scientific program will have "Controversies in Medicine" as its theme.

The 18th Annual **Tennessee Valley Medical Assembly** will be on October 19-20.

The Congress of County Medical Societies has announced that the 1970 Annual Meeting and Seminar on Private Practice will be at the Netherland Hilton Hotel in Cin-

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cinnati, Ohio, on November 6-8.

The American College of Surgeons 19-day scientific winter cruise on the S. S. Rotterdam, combining shipboard sessions with Sectional Meetings in Panama City, Caracas and San Juan will be January 2-21, 1971. Additional program information may be obtained from the American College of Surgeons, 55 East Erie Street, Chicago, Illinois 60611.

50 YEARS



September 1920

The Committee on Child Welfare commended the efforts of the Bureau of Child Hygiene of the State Board of Health. The Committee on the Standardization of Hospitals commended the spirit of progress in the hospitals in South Carolina and noted that many hospitals had installed x-ray equipment and laboratories.

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358, second year $12,496 and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, P. O. Box 119, Columbia, South Carolina 29202.

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DEATHS

Dr. A. Ellis Poliakoff

Dr. A. Ellis Poliakoff, prominent Abbeville physician, died July 11 in the University Medical Center Hospital at Birmingham, Ala., following a short illness.

He was a lifelong resident of Abbeville and had practiced medicine in Abbeville since 1932, with the exception of 3 years during World War II when he served as a Captain in the U. S. Army Medical Corps.

As chief of staff of the Abbeville Memorial Hospital, he played a leading role in the planning and building of the new hospital. At the time of his death, he was secretary of the hospital board of trustees.

Dr. Poliakoff was a graduate of Abbeville High School, the University of South Carolina and the Medical College of South Carolina. He did post graduate work at Roper Hospital, Charleston, and Harvard University Medical School.

Dr. A. Rhett Nicholson

Dr. A. Rhett Nicholson, 84, Edgefield's oldest doctor and the founder of Nicholson clinic, died July 19 at his home.

Dr. Nicholson opened the Nicholson Clinic in 1911. He was a graduate of Wofford College, took his medical degree at the University of Louisville, Ky., and did internship in Bellevue Hospital, New York City.

The William S. Hall Psychiatric Institute in Columbia will present a program on "Psychopharmaceuticals—Use and Abuse' on Tuesday, October 13, 1970.

The Chicago Medical Society will conduct two postgraduate courses of one week each in Internal Medicine and Obstetrics and Gynecology on November 9-13 and 16-20. Complete details may be obtained from Chicago Medical Society, 310 South Michigan, Chicago, Illinois 60604.

ABSTRACTS

Undernutrition and Child Development—H. P. Chase and H. P. Martin. New Eng J Med 282:933-938 (April 23) 1970.

When 19 children who had been hospitalized with undernutrition in the first year of life were compared with a control group three to four years later, they were found to be lower in height, weight, head circumference, and developmental quotients. Impairment of physical and mental development appears to correlate with the duration of undernutrition in the first year of life. Nine children admitted with undernutrition in the first 4 months of life now have a mean developmental quotient of 95, which is similar to the mean of 99 for the 19 control children. Ten infants admitted with undernutrition after age of 4 months have a greater incidence of low height, weight, and head circumference, and a mean developmental quotient of 70. Social factors associated with undernutrition included paternal separation, alcohol-related problems, inadequate money, and a greater number of young siblings in low-income families.

Complications of Smallpox Vaccinations, 1968—Lane, J .M., Ruben, F. L., Neff, J. M., Millar, J. D. New Eng J Med 281:1201-1208, (November 27) 1969.

In 1968, 572 persons in the United States had confirmed vaccination complications. Of these, 82.5 per cent had received Vaccinia Immune Globulin. Sixty-eight per cent of the patients were primary vaccinees, 7 per cent were revaccinees, 20 per cent acquired vaccinia not by vaccination but by contact, and 5 per cent had unknown histories of vaccination. There were nine deaths: four caused by postvaccinial encephalitis, four associated with vaccinia necrosum, and one caused by eczema vaccinatum. There were 74 complications and one death per 1,000,000 primary vaccinations. Morbidity and mortality rates were the highest for infants, with 112 complications and five deaths per 1,000,000 primary vaccinations. Eczema vaccinatum was more severe for contacts than for vaccinees. Although the risk with revaccination is less than a tenth that with primary vaccination, vaccinia necrosum develops in patients with immunologic disorders whether or not they have been previously vaccinated. These estimates, based on surveillance, must be considered minimal.

Byssinosis in Cotton Textile Mills—P. E. Schrag and A. D. Gullett. Amer Rev Resp Dis 101:497-503 (April) 1970.

Five hundred textile workers employed by a large American textile corporation were studied for evidence of byssinosis. Clinical histories were correlated with occupational histories, respiratory function tests, and dust level determinations. Sixty-three workers (12%) of those studied were found to have byssinosis. The prevalence of the disease was highest in carders, but spinners, weavers, and winders also had the disease. Persons with byssinosis were found to represent a significant proportion of cotton textile workers who suffered from dyspnea. The need for better dust suppression in the American cotton textile industry and the need for closer medical supervision of textile workers are emphasized.

"Cutting with high-frequency current was first used by C. W. Collings of New York in 1926. He had a tube machine which he called a 'radio-therm.' His procedure was similar to that of Bugbee and Luys, but instead of burning away the tissue he cut it. When he replaced the tube with a high-frequency spark gap he found that the cutting power was not diminished but that there was very little coagulation. This proved to be one of the disadvantages of the new instrument, the present-day resectoscope, invented by Maximillian Stern of New York in the same year. This new instrument had a tungsten wire loop that could be moved to and fro by a handle on the outside through a rack and pinion arrangement. The obstruction could be whittled under direct vision by moving the loop. It was an excellent cutting tool but deficient in coagulation; and it would have been discarded had it not been for the persistency and electrical 'know-how' of one man, T. M. Davis of Greenville, South Carolina. He worked with it and developed a switch whereby two currents could be used, one undamped for cutting and one damped to stop hemorrhage by coagulation. He also increased the size of the loop and window to permit the removal of larger pieces of tissue. The excellent results reported by Davis in 1931 revived transurethral resection."

Harry S. Shelley, The Enlarged Prostate: A Brief History of Its Treatment, Journal of the History of Medicine and Allied Sciences 24:452-473.

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See Clinical Considerations section on last page...

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Patients with Normal Renal Function

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Urinary Tract Infections (due to susceptible strains of gram-negative bacteria)†	0.8-1.2 mg./kg. for 7-10 days	Larger doses or additional antibacterial therapy should be considered in severe urinary tract infections or in resistant cases involving the renal parenchyma or anatomic anomaly.	up to 5 mg./kg.
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†Alkalinization of the urine may be a useful therapeutic adjunct.

Patients with Impaired Renal Function

To minimize the risk of ototoxicity in patients with impaired kidney function, only the first dose should be that normally recommended. Each subsequent dose should be half or less of that recommended for patients with normal renal function, depending upon the degree of renal impairment.

In patients with renal failure who are undergoing 14-hour hemodialysis twice weekly, administration of 1 mg./kg. GARAMYCIN Injectable at the end of each dialysis period has been suggested.

Clinical Considerations

Indications: GARAMYCIN Injectable is clinically effective in infections due to susceptible strains of gram-negative bacteria, including *Pseudomonas aeruginosa,* and species of indole-positive and indole-negative *Proteus, Escherichia coli,* and *Klebsiella-Aerobacter.* Bacteriologic studies should be conducted to identify the causative organism and to determine its sensitivity to gentamicin sulfate. Sensitivity discs of the drug are available for this purpose. If the susceptibility tests indicate that the causative organism is resistant to gentamicin sulfate, other appropriate antibiotic therapy should be instituted.

IN VITRO INHIBITION OF CLINICALLY IMPORTANT BACTERIA BY GENTAMICIN SULFATE (TUBE DILUTION STUDIES)

BACTERIA	No. of Strains Tested	No. of Strains (%) Inhibited by: 4 mcg./cc. or less		8 mcg./cc. or less*		No. of *In Vitro* Studies
Staphylococcus aureus	1,210	1,200	(99%)	1,206	(99%)	11
Pseudomonas aeruginosa	885	771	(87%)	828	(93%)	16
Escherichia coli	836	736	(88%)	779	(93%)	11
Indole-positive and indole-negative *Proteus* species	477	210	(44%)	358	(75%)	12
Klebsiella-Aerobacter species	292	205	(70%)	231	(79%)	10

*Number of strains (%) of gram-negative bacteria inhibited by 10 mcg./cc. or less are as follows: *Pseudomonas aeruginosa,* 828 (93%); *Escherichia coli,* 792 (95%); *Proteus* species, 393 (82%); *Klebsiella-Aerobacter* species, 284 (97%). From same studies as above.
Source: Package Insert

This drug should be limited to the treatment of serious infections caused by gram-negative bacteria, particularly *Pseudomonas aeruginosa, Proteus* and other susceptible organisms, with due regard for relative antibiotic toxicity. Therefore, the drug should be considered for use against gram-negative: 1. Bacteremia; 2. Infected surgical wounds; 3. Severe soft tissue infections, including burns complicated by sepsis; 4. Respiratory tract infections; and 5. Selected cases of urinary tract infection.

Contraindications: GARAMYCIN Injectable is contraindicated in individuals with a history of hypersensitivity or toxic reactions to gentamicin.

Warnings: Patients receiving treatment with GARAMYCIN should be under close clinical observation because of the toxicity associated with the use of this drug. Ototoxicity, vestibular and auditory, can occur in patients, primarily those with pre-existing renal damage, treated with GARAMYCIN Injectable, usually for longer periods or with higher doses than recommended.

GARAMYCIN Injectable is potentially nephrotoxic, and this should be kept in mind when it is used in patients with pre-existing renal impairment. Kidney function diminished by infection of the upper urinary tract may, however, improve during effective treatment with GARAMYCIN Injectable.

Concurrent administration of potentially ototoxic drugs such as streptomycin and kanamycin or of potentially nephrotoxic drugs such as polymyxin, colistin, and kanamycin with gentamicin sulfate has not been shown to afford any clinical advantages and, moreover may result in additive toxicity. Monitoring of vestibular, cochlear, and renal function will provide guidance for therapy in such cases.

Precautions: In patients with impaired renal function in whom serious infection develops, serum concentrations of the drug may rise, with consequently increased risk of ototoxicity. In these patients or in those in whom recommended dosage or duration of therapy must be exceeded as a life-saving measure, routine studies of kidney function should be performed when possible. These may be supplemented by evaluation of the vestibular and auditory function and measurement of serum concentration of the drug when feasible. Serum concentrations of gentamicin should be maintained below the range of 10-12 mcg./ml. to reduce risk of ototoxicity.

Ordinarily, treatment should not be given for more than 7 to 10 days or be repeated unless required for serious infection not responsive to other agents.

As with other antibiotics, treatment with GARAMYCIN Injectable may occasionally result in overgrowth of nonsensitive organisms. If superinfection occurs, appropriate therapy is indicated.

Safety for use in pregnancy or the potential for fetal ototoxicity or nephrotoxicity have not been established. Studies in pregnant animals have not revealed teratogenic or ototoxic effects in the fetus. GARAMYCIN Injectable should not be used in pregnant patients or in women of childbearing age unless its use is deemed advisable by the physician.

Adverse Reactions: The overall incidence of ototoxicity considered related to treatment with GARAMYCIN Injectable was 2.8 per cent (16 of 565 patients). Contributory factors (two or more factors were relevant to most patients) were as follows: 10 had azotemia, 10 received a total of 1 gram or more of the drug, 7 had recently received other potentially ototoxic antibiotics (streptomycin or kanamycin), and 5 were over 60 years of age. Six also had decreased high-tone hearing acuity, which returned to or toward normal in the 4 patients retested.

Analysis of BUN data indicated that 4 (2%) of 172 patients showed increases in BUN that were probably related to treatment with GARAMYCIN Injectable. Of 20 increases probably or possibly related to treatment, 7 were reversible, 9 occurred in terminal patients, and 4 had no follow-up.

Other adverse reactions associated with treatment were one instance each of urticaria, decreased hematocrit, and reversible depression of granulocytes with normal bone marrow. Other rarely reported and possibly treatment-related adverse reactions were anemia, increased reticulocyte count, rash, purpura, drug fever, hypotension, convulsions, twitching, salivation, nausea, vomiting, increased transaminase activity (SGOT or SGPT), increased serum bilirubin, decreased serum calcium, and joint pain.

Packaging: GARAMYCIN Injectable, 40 mg./cc., 2-cc. multiple-dose vials, for intramuscular administration.

For more complete prescribing details, consult package insert or Physicians' Desk Reference. Schering literature is also available from your Schering Representative or Medical Services Department, Schering Corporation, Union, New Jersey 07083.

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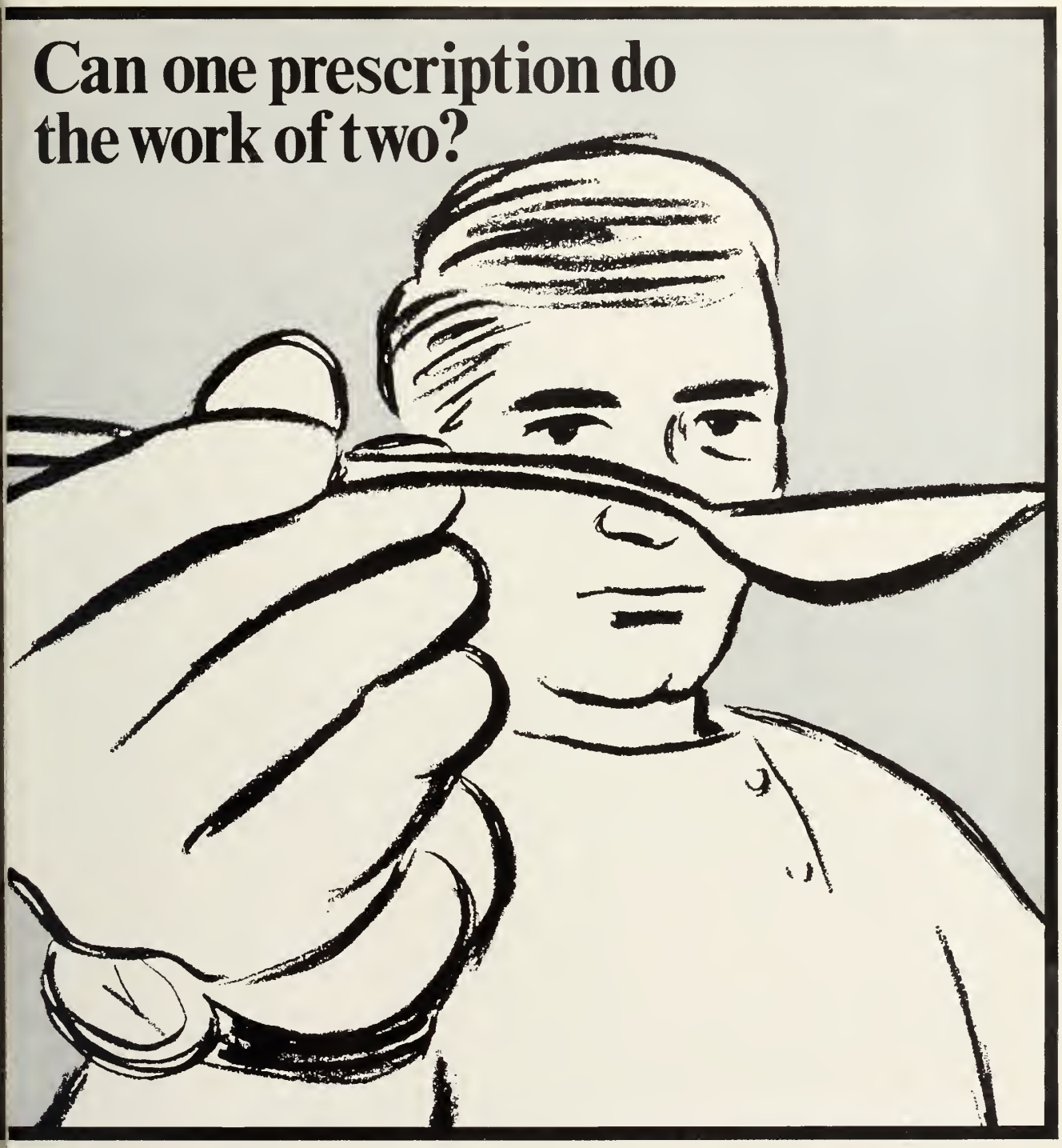
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Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported an recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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The Journal of The SOUTH CAROLINA Medical Association

INTESTINAL PARASITES

PARASITES AND NUTRITION

CLINICAL TRIAL OF NITROFURAZONE

JAMES WOODS BABCOCK

CLINICOPATHOLOGICAL CONFERENCE

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RODERICK MACDONALD

ME 66 OCTOBER, 1970 NUMBER 10





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Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose-related. Transient, reversible, nephrogenic diabetes insipidus with excessive thirst and polyuria (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: One tablet b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

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WARNINGS: Patients should be warned against driving a car or operating machinery or apparatus requiring alert attention, and that response to alcohol may be increased.

PRECAUTIONS: Suicide is always a possibility in mental depression and may remain until significant remission occurs. Supervise patients closely in case they may require hospitalization or concomitant electroshock therapy. Untoward reactions have been reported after the combined use of antidepressant agents having various modes of activity. Accordingly, consider possibility of potentiation in combined use of antidepressants. Use with caution in patients with glaucoma and those with problems of urinary retention. Perphenazine can lower the convulsive threshold in susceptible individuals. It should be given with caution to patients with convulsive disorders. Dosage of the anticonvulsive agent may have to be increased. Not recommended for use in children. Mania or hypomania may be precipitated in manic-depressives (perphenazine in TRIAVIL seems to reduce likelihood of this effect). If hypotension develops, epinephrine should not be employed, as its action is blocked and partially reversed by perphenazine. Caution patients about errors of judgment due to change in mood.

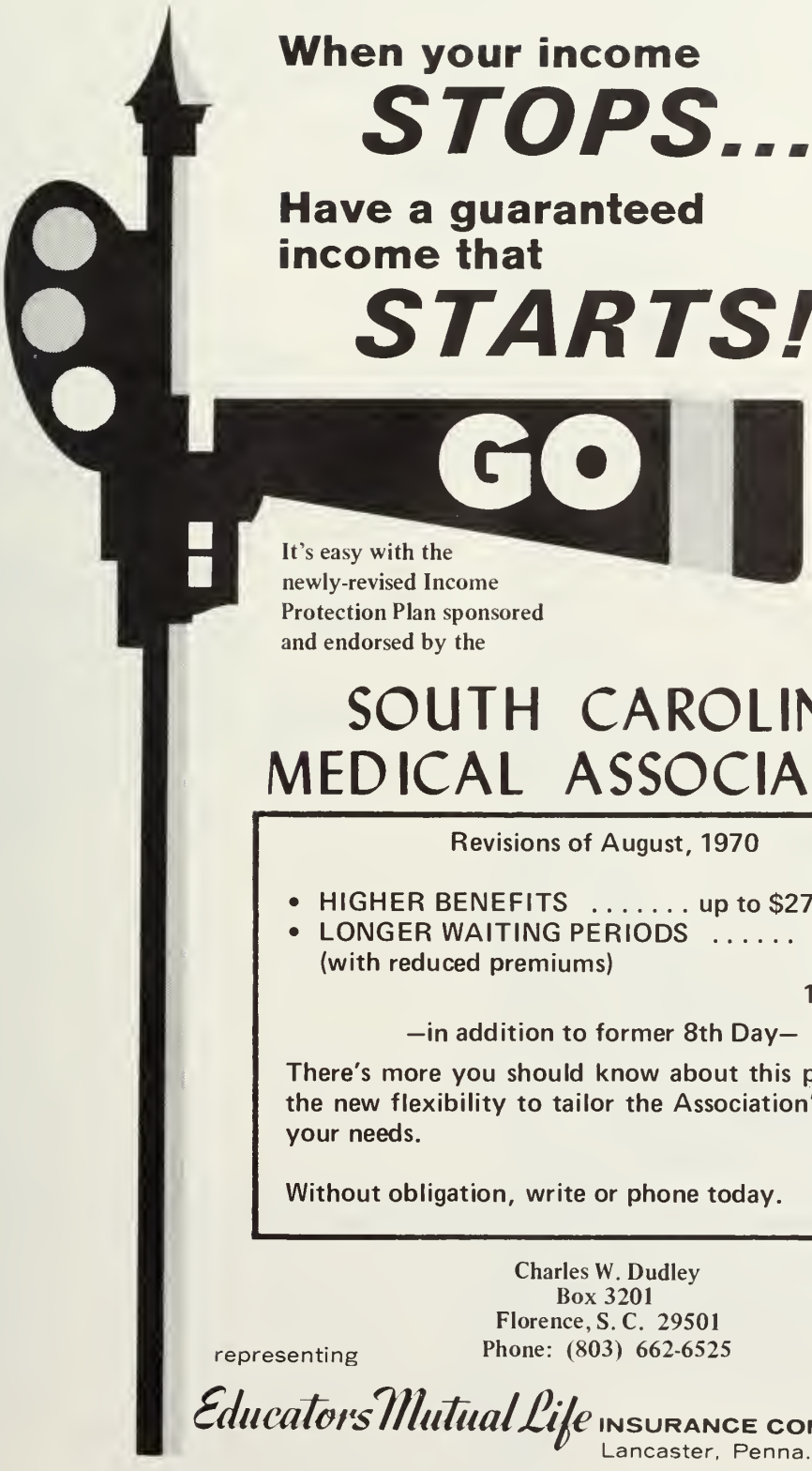
ADVERSE REACTIONS: Similar to those reported with either constituent alone.

Perphenazine: Should not be used indiscriminately. Use caution in patients who have previously exhibited severe reactions to other phenothiazines. Likelihood of untoward actions greater with high doses. Closely supervise with any dosage. Side effects may be any of those reported with phenothiazine drugs: extrapyramidal symptoms (opisthotonos, oculogyric crisis, hyperreflexia, dystonia, akathisia, dyskinesia, parkinsonism) usually controlled by the concomitant use of effective antiparkinsonian drugs and/or by reduction in dosage, but sometimes persist after discontinuation of the phenothiazine; skin disorders (photosensitivity, itching, erythema, urticaria, eczema, up to exfoliative dermatitis); other allergic reactions (asthma, laryngeal edema, angioneurotic edema, anaphylactoid reactions); peripheral edema; reversed epinephrine effect; hyperglycemia; endocrine disturbances (lactation, galactorrhea, disturbances of menstrual cycle); altered cerebrospinal fluid proteins; paradoxical excitement; EKG abnormalities (quinidine-like effect); reactivation of psychotic processes; catatonic-like states; autonomic reactions, such as dryness of the mouth, headache, nausea, vomiting, constipation, obstipation, urinary frequency, blurred vision, nasal congestion, and a change in the pulse rate; hypnotic effects; pigmentary retinopathy; corneal and lenticular pigmentation; occasional lassitude; muscle weakness; mild insomnia. Other adverse reactions reported with various phenothiazine compounds, but not with perphenazine, include blood dyscrasias (pancytopenia, thrombocytopenic purpura, leukopenia, agranulocytosis, eosinophilia); liver damage (jaundice, biliary stasis); grand mal convulsions; cerebral edema; polyphagia; photophobia; skin pigmentation; and failure of ejaculation. Significant unexplained rise in body temperature may suggest intolerance to perphenazine, in which case discontinue. Antiemetic effect may obscure signs of toxicity due to overdosage of other drugs or make diagnosis of other disorders such as brain tumors or intestinal obstruction difficult. May potentiate the action of central nervous system depressants (opiates, analgesics, antihistamines, barbiturates, alcohol) and atropine. In concurrent therapy with any of these, TRIAVIL should be given in reduced dosage. May also potentiate the action of heat and phosphorous insecticides.

Amitriptyline: Careful observation of all patients recommended. Side effects include drowsiness (may occur within the first few days of therapy); dizziness; nausea; excitement; hypertension; fainting; fine tremor; jitteriness; weakness; headache; heartburn; anorexia; increased perspiration; incoordination; impotence; increased appetite and weight gain; allergic-type reactions manifested by skin rash, swelling of face and tongue, itching; numbness and tingling of limbs, including peripheral neuropathy; activation of latent schizophrenia (however, the perphenazine content may prevent this reaction in some cases); epileptiform seizures; temporary confusion, disturbed concentration, or transient visual hallucinations on high doses; evidence of anticholinergic activity, such as tachycardia, dryness of mouth, stomatitis, blurring of vision, reversible dilatation of the urinary tract, urinary retention, constipation, paralytic ileus; agranulocytosis; jaundice. Elderly patients and adolescents can often be managed on lower dosage levels.

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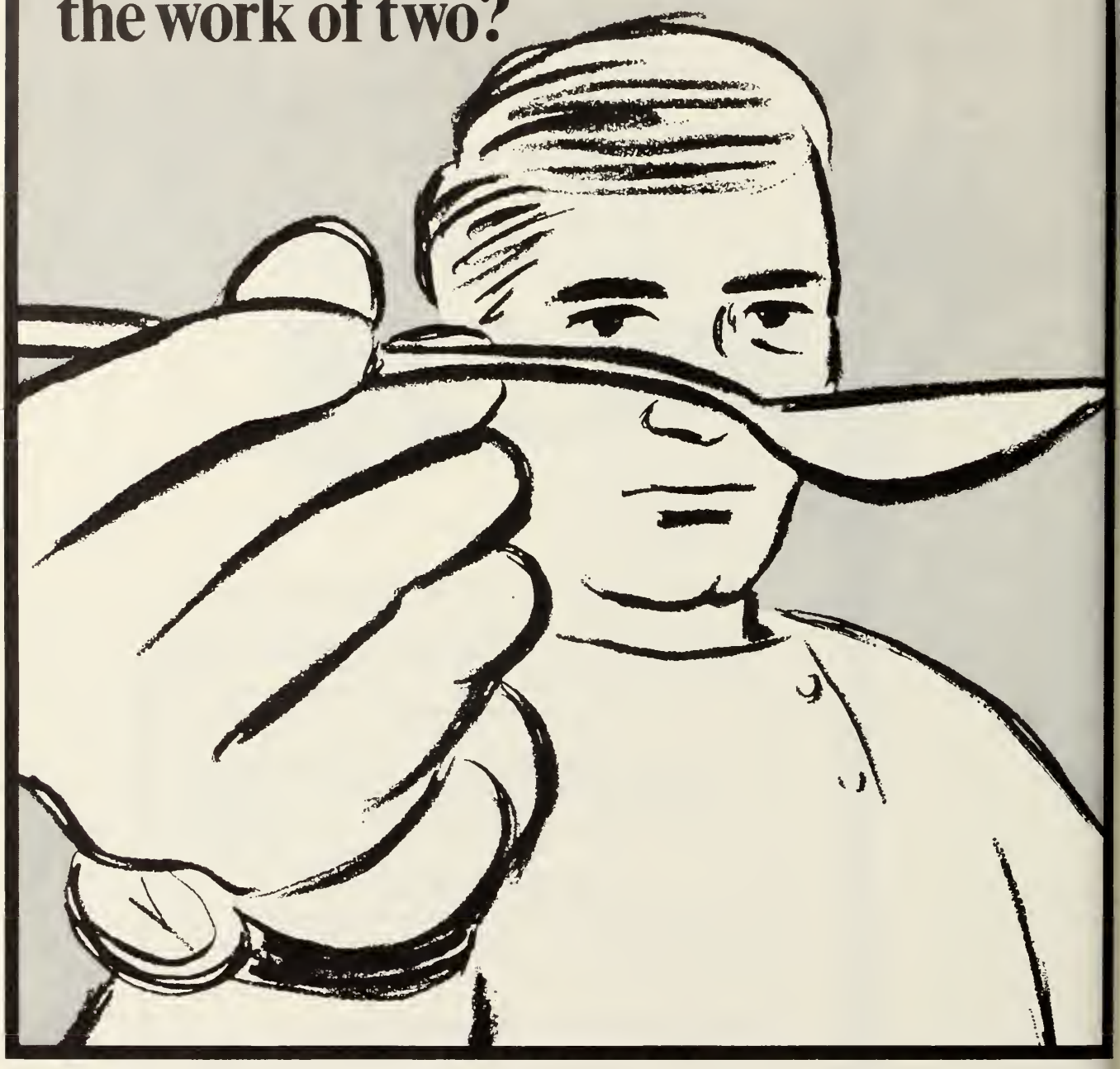
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Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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*Slanger, A.: Med. Times *94*:150 (Feb.) 1966.

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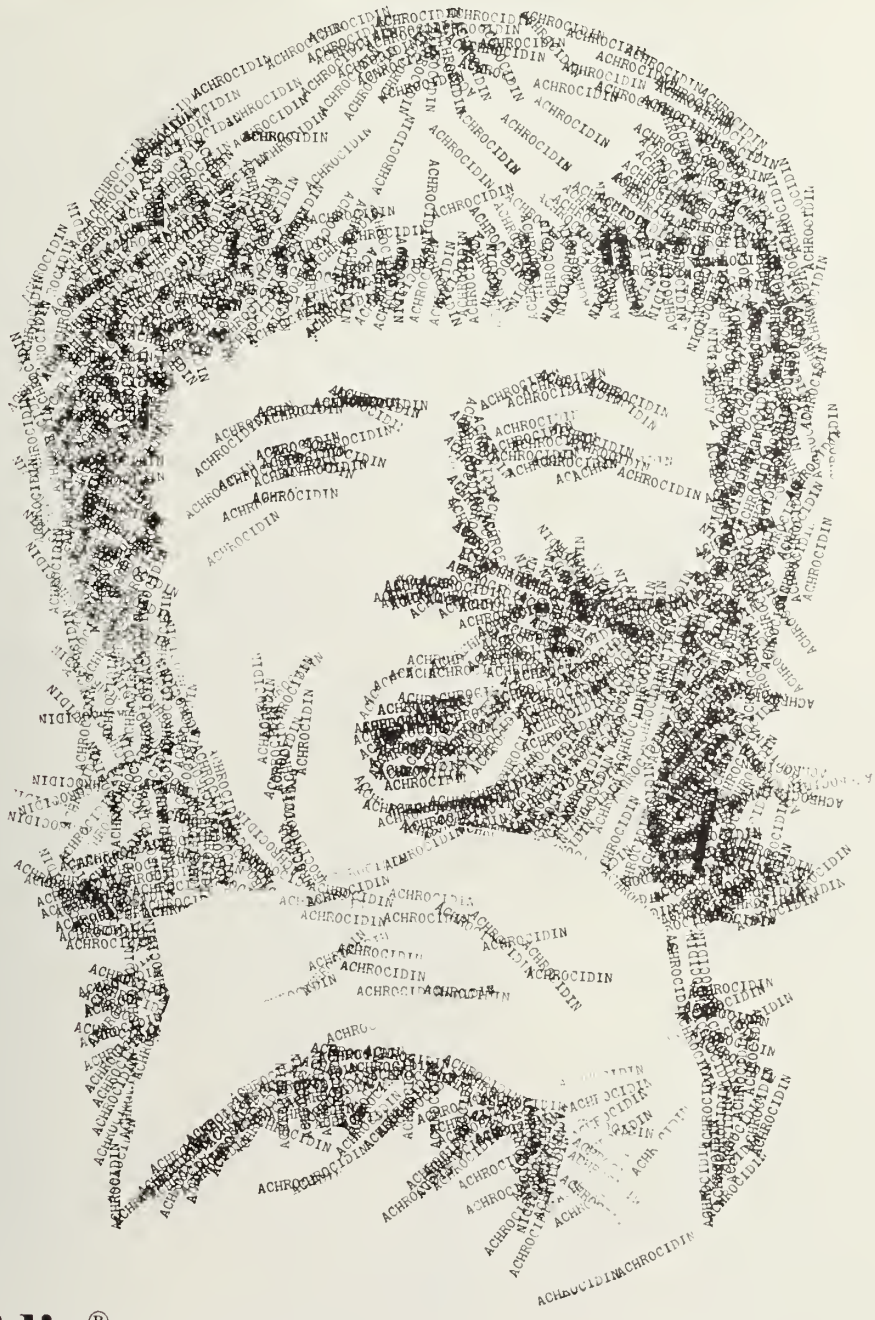
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Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

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VOLUME 66 OCTOBER, 1970 NUMBER 10

INTESTINAL PARASITES IN SOUTH CAROLINA 1969

ARTHUR F. DiSALVO and
JANA MELONAS, B. S.

The occurrence of intestinal parasites and malnutrition in South Carolinians has received extensive publicity during the past two years. This subject has been discussed on national and local television interviews, in churches and written about in lay and scientific publications. These reports have all stressed the large percentage of stool examined which harbored the eggs of intestinal parasites.

A study of 212 persons in Bluffton, South Carolina revealed that 63.7% of this population were infected with *Ascaris lumbricoides*, 37.3% had *Trichuris trichiura* and 3.8% had hookworms.[1] A second study in the Bluffton-Hilton Head area of South Carolina reported that of 131 children examined 21.4% were infected with *A. lumbricoides*, 25.2% were infected with *T. trichiura* and 26.7% had both. Ninety-six (73.3%) of these children studied were infected.[2] Another study reported that 21.9% of 884 children from mid-state harbored *A. lumbricoides*.[3]

The Bureau of Laboratory Services and Research of the South Carolina State Board of Health examines approximately 26,000 stool specimens annually for intestinal parasites. The laboratory records for the calendar year 1969 have been reviewed and form the basis of this report.

It is not contended that this report represents the incidence of parasitic infections in South Carolina because the population studied is not a random selection of the total population. However, the greatest proportion of our specimens are obtained from school children and through county health departments. These data are presented simply as the findings of the State Board of Health.

Materials and Method

Stool specimens are routinely submitted to this laboratory by mail in one ounce ointment tins and are refrigerated until they are examined. The feces is examined by the modified zinc sulfate concentration technique. This method is based on the principles of specific gravity, therefore most helminth eggs, which have a specific gravity of 1.05 to 1.15, will float on top of the zinc sulfate solution of 1.18 specific gravity. Wet mounts are then examined microscopically.

The main advantages of this method are economy, speed, and adequate recovery of nematode eggs and protozoan cysts.

The zinc sulfate method does not recover the schistosome eggs and the operculate eggs. However, these are not known to be of significant importance to our area of the country.

Although we do not include other methods routinely, we also use the formalin-ether technique and the trichrome stain when the request form indicates that the suspected parasitic agent is one that our routine method would not recover.

Results

The results of these findings are presented in Table 1. They have been listed according

Bureau of Laboratory Services and Research, South Carolina State Board of Health, Columbia, South Carolina 29201.

to the home county of the patient to be more useful to the physician. Of 26,489 stool specimens examined, 13% contained *A. lumbricoides* eggs, 3% contained hookworm eggs and 2% contained *T. trichiura* eggs. In addition to the 3 soil inhabiting nematodes listed, one stool specimen had *Entamoeba histolytica cysts*, 2.1% of those examined contained *E. voli* cysts and 0.3% contained *Enterobius vermicularis* eggs. The latter eggs are not usually found by examining stool specimens. Another 0.1% of the specimens contained *Giardia lamblia* cysts. This organism may be a commensal or a pathogen.

Hookworms are not reported by species because one can not readily distinguish between the Old World hookworm *Ancylostoma duodenale* and the New World hookworm *Necator americanus* by a cursory examination of the egg. Our findings most likely represent *N. americanus* and are simply reported as "hookworm."

TABLE 1: STOOL EXAMINATIONS FOR ENTERIC PARASITES

COUNTY	Number Examined	ASCARIS		HOOKWORM		TRICHIURUS	
		Number	Percent	Number	Percent	Number	Percent
Abbeville	19						
Aiken	213	13	6	2	1		
Allendale	118	14	12			1	1
Anderson	109	1	1	1	1		
Bamberg	67	6	9	1	1	2	3
Barnwell	161	25	16	12	7	3	2
Beaufort	439	63	14	12	3	80	18
Berkeley	50	2	4	2	4		
Calhoun	237	37	16	3	1	2	1
Charleston	2,176	597	27	12	0.5	281	13
Cherokee	248	5	2	1	0.4	4	2
Chester	62	5	8				
Chesterfield	658	24	4	22	3	3	0.5
Clarendon	180	35	19	1	0.6		
Colleton	443	52	12	7	2		
Darlington	1,563	233	15	83	5	1	0.1
Dillon	200	31	16	22	11		
Dorchester	397	54	14	5	1	3	1
Edgefield	43	2	5				
Fairfield	706	6	1	2	0.3	1	0.1
Florence	1,874	246	13	78	4.2	9	0.5
Georgetown	1,030	134	13	8	1	22	2
Greenville	140	2	1			1	1
Greenwood	174	6	3	17	10		
Hampton	269	51	19	5	2	2	1
Horry	6,739	737	11	317	5	32	0.5
Jasper	1,318	248	19	8	1	22	2
Kershaw	177	16	9	1	1	1	1
Lancaster	103			1	1		
Laurens	48	1	2				
Lexington	752	25	3	12	2	1	0.1
Lee	1,578	282	18	4	0.3	2	0.1
McCormick	25						
Marion	103	8	8	6	6		
Marlboro	413	25	6	7	2	1	0.2
Newberry	81						
Oconee	30						
Orangeburg	635	111	18	11	2	6	1
Pickens	239	4	2				
Richland	620	21	3	1	0.2		
Saluda	44						
Spartanburg	189						
Sumter	1,082	265	25	4	0.4	11	1
Union	29					1	3
Williamsburg	655	108	17	6	1	3	0.5
York	53						
TOTAL	26,489	3,495	13	674	3	495	2

Discussion

Claims have been made that malnutrition is widespread in South Carolina and is, in large part, due to infection with intestinal parasites. Preliminary reports from a statewide nutritional survey performed by the South Carolina State Board of Health during the Winter and Spring 1969-70 tend to confirm the first part of this statement. Estimation of the extent of malnutrition was based on diet history, hematological, biochemical and urinary laboratory examinations and medical, dental, radiological and anthropometric evaluation of patients. However, the cause(s) of malnutrition has not been precisely evaluated.

Price and O'Bryan tabulated data from 417 South Carolina physicians as to the main causes of malnutrition seen in their practice.[4] The physicians replied that parasitism, as a cause of malnutrition, ranked third behind poor diet and chronic disease.

Reports of stool examinations for intestinal parasites have shown that in the Bluffton-Hilton Head area as much as 73.3% of the children examined harbor these organisms. A review of the results of specimens examined in this laboratory is presented. Perhaps this discrepancy can be explained by the lack of a random population being studied and also by the small numbers of patients from a well defined population who were examined in the other studies. In preparing this report it was found that, in one county, an average of 27% of the stool specimens contained *A. lumbricoides*. When examined on a monthly basis, the findings showed a wide range. In May, 1969, one specimen of 22 examined (4.5%) contained theseeggs. In August, 1969, 52 of 127 specimens (41%) contained *A. lumbricoides* eggs. A ten-fold variation was encountered when the sample size was small. Day by day results probably represent groups of more closely related subjects and vary markedly from group to group depending upon many factors. Results of studies not involving random population sampling of an entire area do not represent the infection percentages for that entire area. They represent percentages only for the specific group under study. It is for this reason that the data presented here should not be taken as representative of the overall population within any certain area.

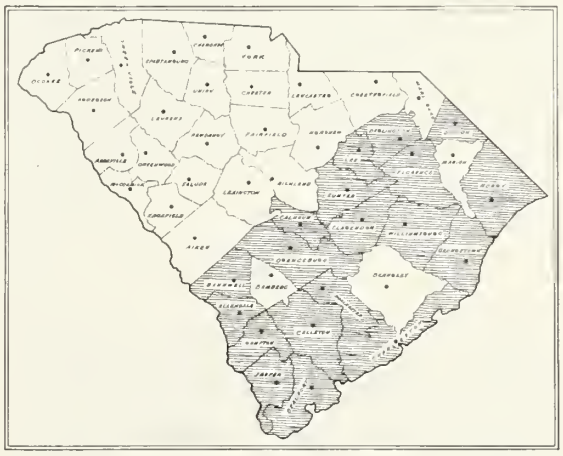


Figure 1. Counties in which 10% or greater of stool specimens contained Ascaris lumbricoides are indicated by shading.

The most common parasites reported in South Carolinians are the soil inhabiting nematodes *Ascaris lumbricoides, Trichuris trichiura* and hookworms. These species are most common because the mild temperature and moist soil, especially of the coastal area, provide a favorable environment for the survival and proliferation of these nematodes. The lack of indoor toilets (and sometimes the absence of even a privy) and proper toilet training provide a source of continual seeding of the premises with the organisms. Plotting those counties with an *Ascaris lumbricoides* infection rate of greater than 10% on a map, it is evident that this organism is indigenous to the coastal area of South Carolina (Figure 1). Only Bamberg (9%), Berkeley (4%), and Marion (8%) counties did not attain this distinction. This may be explained by the small numbers of samples submitted by these counties (67, 50 and 103 respectively).

The fourth soil-inhabiting nematode one would expect to find in this area, *Strongyloides stercoralis*, is not frequently reported, due partially to the fact that this species is expelled from the body as larvae, the presence of which varies markedly from day to day in stool specimens. With unpreserved specimens,

transit time through the mail may also decrease the possibility of recovering and identifying some parasites. It is recommended that patients with suspected protozoan or *Strongyloides* infection submit at least three specimens at three day intervals in formalin or PVA solution.

Summary

During the calendar year 1969, 26,489 stool specimens were examined by the Parasitology Section of the Bureau of Laboratory Services and Research. It was found that 13% of the specimens contained *Ascaris lumbricoides* eggs and 2% contained the eggs of *Trichuris trichiura,* and 3% contained hookworm eggs.

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Survey of Infantile Gastroenteritis—A. G. Ironside, A. F. Tuxford, and B. Heyworth. Brit Med J 3:7-9 (July 4) 1970.

In 1967 there were 339 admissions of patients with infantile gastroenteritis to Monsall Hospital in Manchester. One third of the patients were dehydrated, and in this group over 60% were hypernatremic. An incidence of 58% dehydration was found in 49 infants receiving oral glucose fluids (often hypertonic) before admission, compared with 29% in the other 290, and it appeared that glucose seriously aggravated the disease. Associated respiratory infections were present in 20% and enteropathic Escherichia coli were isolated in 16% of the cases. Treatment was aimed at the restoration of fluid and electrolyte balance, usually achieved with oral fluids based on half-strength Darrows solution. Intravenous fluids were only used in the most severely dehydrated patients, including all those with evidence of shock. Antibiotics were only used in the treatment of associated infection, with good effect, and in the enteropathic E coli group, with poor effect. Recovery was complete in 320 patients and a further 14 were discharged as healthy carriers of enteropathic E coli. There were five deaths in the series (1.5%), three occurring with severe dehydration and shock.

Obscure Hemolytic Anemia Due to Analgesic Abuse—E. A. Azen et al. Amer J Med 48:724-727 (June) 1970.

Three patients with acquired hemolytic anemia due to surreptitious analgesic drug abuse are described. They denied exposure but metabolites of para-aminophenol analgesic derivatives were found in their urine. Analgesic drug abuse should be suspected in patients with obscure acquired hemolytic anemia, even when a history of drug exposure cannot be obtained, and especially when a patient has chronic pain and appears neurotic. Methemoglobinemia and an increased number of erythrocytes with Heinz bodies are not always present. If this problem is suspected, and especially when the diagnosis of "enterogenous cyanosis" is being considered, the urine should be examined for the presence of NAPA (N-acetyl-para-aminophenol).

Cervix Cancer Control in Louisville, Kentucky—W. M. Christopherson, et al. Cancer 26:29-38 (July) 1970.

The results of 12 years of mass cytologic screening of a community for protection from uterine cancer are reported, and the effects upon incidence rates of the various component cancers are analyzed. A preceding three-year period during which no screening was performed was used to calculate the expected rates. Total cancers of the uterus, including carcinoma in situ, had an average annual rate of 125.5/100,000 women 20 years of age and older during the 15-year period. During the last three-year period, carcinoma of the cervix was diagnosed at an earlier stage, and the rates decreased by one third. Carcinoma in situ increased in proportion to screening activity. There was an increase in the rate for endometrial carcinoma. The greatest response to screening was in women under 50 years of age. This group showed the greatest decrease in rates and was, for the most part, diagnosed at an earlier stage of the disease.

INTESTINAL PARASITES AND NUTRITIONAL STATUS

III. Reinfection of Children by **Ascaris** After Drug Treatment

A Preliminary Report

E. J. LEASE, Ph.D.

I. *Introduction:*

A flavored syrup containing piperazine citrate has been used since 1949 to remove the large round worms, *Ascaris lumbricoides,* from the intestinal tracts of children.[1] The pleasant taste of most commercial brands and the absence of side effects except for occasional nausea have added to its popularity. However, most health professionals consider the one or two dose treatment only temporarily effective in that it does not insure against reinfection.

Although the approximate number of children who harbor large round worms in South Carolina is not known, there are some published surveys on the subject.[2-6] A primary concern is to find effective methods of reducing the number of intestinal parasites being harbored and thereby improving the nutritional status of children. The purposes of this study were to determine the intensity of *Ascaris* infection among a specific group of children and to evaluate a regimen of piperazine citrate syrup with regard to the effectiveness of cure. Simultaneously, various educational programs were to be carried out to inform the families involved with regard to sanitation facilities and personal hygiene practices to prevent reinfection. It was recognized that there are uncontrolled variables, but in dealing with people residing in their own homes such variables cannot be avoided. Another reason for undertaking the studies was to determine under South Carolina conditions the period of time that could expire between piperazine citrate treatments without having ascarides mature to the egg-laying stage.

Oral administration of piperazine citrate syrup on two consecutive days does not remove the migrating larvae, but rather is confined to an anaesthetic effect on the adult worms within the intestines. These young larvae will grow to maturity and will begin laying eggs after the piperazine citrate has rid the body of all adult worms harbored in the intestines at the time of administration. An additional treatment properly spaced from the first is needed to rid the body of worms which were migrating larvae at the time of the first treatment. Accordingly, experiments were designed to determine the best deworming regimen for children living in an environment conductive to reinfection.

Mass treatment of ascariasis using only a single dose of piperazine citrate was studied as a public health control measure by Atchley, Wysham, and Hemphill,[7] but like other investigators they found the single dose therapy to be only partially successful. Piperazine citrate has been found to be a safe drug in its use for ascariasis by several investigators. In a review article authorized for publication by the Council on Drugs of the American Medical Association, Most,[8] states, "Piperazine has been found to be both effective and nontoxic." The use of this drug by nurses and aides has become so general that many leaders believe it would be in the interest of the public to permit it to be sold at the discretion of a registered pharmacist.

A deworming regimen, education and construction of sanitary facilities are the only ways now available to expedite eradication. Another approach would be to develop a

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practical method of decontaminating the soil in certain confined areas such as schools and home dooryards, thereby interrupting the oxygen phase of the life cycle of the worms. Freshly laid *Ascaris* eggs must remain in the soil approximately three weeks to develop internally before the eggs become infective and may remain infective from one to seven years. The eggs are destroyed by heating to 70°C (160°F) for a few seconds;[9] thus it seems plausible that a portable steam generator and applicator could be built to accomplish the purpose. If children carry soil containing infective eggs from their homes or neighborhoods on their shoes, the school could be recontaminated. Children have a natural tendency to put their fingers and other objects into their mouths; thus it is necessary to keep their environment as clean as possible while simultaneously teaching them personal hygiene and environmental health.

II. *Procedure:*

On both the first and second day of the test period a nurse under instructions from the county health officer gave piperazine citrate syrup to all the infected children at their school centers. The dewormed children were divided into a test group and a control group. Each group contained an approximately equal distribution of children from both urban and rural areas who exhibited both high and low intensity parasitic infections. The 19 children placed in the test group were treated on both the 44th and 45th day, but no treatments beyond the first deworming were given to the 17 children placed in the control group.

The study involved a total of 36 children, ages 5 to 6, in Richland County who harbored *Ascaris* and who presumably were living in an environment conducive to reinfection. A quantitative technique was used to collect the stool samples in various school centers as described by Lease, Dudley, and Ziegler.[8] Each stool sample was examined in the laboratory by two qualitative methods, the direct smear and zinc sulfate flotation technique.[10,11] Quantitative estimates of the intensity of helminth infections were made by the Stoll dilution egg count technique.[12]

III. *Interpretation of Results*

The number of worm eggs per milliliter of stool are shown in Tables I and II. The number of worms harbored by these children can be estimated from these figures by

Table I

Reinfection of Children by *Ascaris*
Control Group Treated Only on Days 1 & 2

Subject Number	Ascaris Eggs per ml of Stool		
	Collection I Before Treatment	Collection II Between 50 and 79 Days After Treatment	Collection III Between 195 and 205 Days After Treatment
H-2	60,430	0	37,233
H-17	190,760	0	1,200
H-19	104,900	0	49,100
H-30	19,460	0	0
H-44	54,866	0	39,100
H-50	Positive	0	354,367
H-52	73,700	0	4,667
H-79	28,800	0	0
H-86	47,933	0	14,500
H-91	Positive	0	0
H-95	2,733	0	0
H-97	123,833	0	103
H-101	2,600	0	0
W-20	25,733	0	17,000
W-42	4,366	0	27,267
W-66	67,166	0	0
W-73	200	0	0

Table II

Reinfection of Children by *Ascaris*
Test Group Treated on Days 1, 2, 44 & 45

Subject Number	Ascaris Eggs per ml of Stool		
	Collection I Before Treatment	Collection II Between 50 and 79 Days After Treatment	Collection III Between 195 and 205 Days After Treatment
H-7	127,900	0	0
H-16	62,800	0	0
H-27	29,060	0	0
H-46	6,200	0	0
H-48	166	0	0
H-60	46,700	0	0
H-72	48,233	0	13,667
H-77	78,933	0	0
H-85	255,400	0	1,767
H-94	55,067	0	40,333
H-98	40,766	0	0
H-102	34,100	0	0
W-44	112,666	0	0
W-48	2,766	0	0
W-53	22,333	0	0
W-62	18,000	0	0
W-70	1,000	0	933
W-97	7,500	0	0
W-102	2,367	0	0

dividing by 1500 according to Farid, Bassili, Wissa and Omar.[13] These investigators found that a female *Ascaris* lays 223,000 eggs every 24 hours. This places approximately 1500 worm eggs in each milliliter of stool by each female worm.

Since *Ascaris* requires at least eight weeks from the time of ingestion to mature to an egg-laying adult, no *Ascaris* ova should be present upon examination of a stool sample within a period of eight weeks from the time of treatment, unless *Ascaris* larvae were migrating through the bloodstream, liver, and lungs at the time of the first treatment and were, therefore, unaffected by the piperazine citrate in the gastrointestinal tract. Table I shows 17 children who were free of *Ascaris* through the 50th day, but by the 200th day ten of them became infected. Table II shows only four out of 19 became infected by the 200th day if given additional treatments on the 44th and 45th day. That a period of six months is too long between treatments is indicated in Table III. Taiwan investigators recommend that piperazine treatments be spaced two months apart.[14]

Piperazine citrate treatments can be repeated at intervals which keep the child free of egg laying adults which add fresh contamination to the environment.[15] Since the cost of a treatment with piperazine citrate syrup is only a small fraction of the cost of obtaining, submitting, and examining a stool specimen, this multiple approach is being tested by treating all the children in a few South Carolina schools.

IV. *Summary*

The majority of children in this study became reinfected within six months after removal of adult worms by treatment with piperazine citrate. Their residential environments were conducive to reinfection with *Ascaris*. Within the limited number of children studied, those who were given an addi-

Table III

Reinfection of Children by *Ascaris*

	Control Group Treated Only On Days 1 & 2	Test Group Treated on Days 1, 2, 44, & 45
Total number of children in group	17	19
Percent infected after 50 days	0	0
Percent infected after 200 days	59	21

tional treatment 45 days after the first treatment were less frequently found to be again harboring worms after six months.

In order to eliminate the source of fresh contamination from a family, it is necessary to deworm all infected members of the family repeatedly. When this is accomplished over a period of many months and coupled with educational programs teaching the causes and prevention of parasitic infection and reinfection, there will be less probability that a family will become reinfected from its own environment.

A single dose treatment for *Ascaris,* regardless of the drug administered, is not adequate under the endemic conditions prevalent in South Carolina.

The harboring of *Ascaris* by children is a subject which involves the nourishment available to a child from the food he eats. Eradication of his menace should, therefore, be considered by nutrition workers and school feeding programs.

Indeed, the magnitude of this public health problem warrants the concerned efforts and cooperation of all public agencies and actively involved citizens.

V. *Acknowledgement*

Office of Economic Opportunity grant #8143 P. A. 55 provided funds with which to make this study possible. The author gratefully acknowledges the cooperation of the Richland County Health Department, OEO Personnel, and many others who helped to carry out this program.

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CLINICAL TRIAL OF TOPICAL NITROFURAZONE, WITH OR WITHOUT HYDROCORTISONE, IN 252 CHILDREN WITH SKIN INFECTIONS*

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"Trivial" superficial infections, such as those which frequently are superimposed on factitious dermatitis of mosquito-bite origin, may seem to require no specific antimicrobial medication, and often receive none. As noted in a recent report from this Department, however, the incidence of streptococcus and staphylococcus skin infections of this type is high among children of the southeastern United States, and occasionally these infections are followed by acute glomerulonephritis.[1] Effective treatment with a antimicrobial preparation seems rational, in order not only to reduce discomfort from the sores but also to prevent serious sequelae.

We have shown[2] that topical medication with either of two new nitrofuran preparations, furazolium or furazolidone, was effective in shortening healing time and in reducing the size and number of sores in skin infections which followed patient's scratching of mosquito bites and was superior to the use of hexachlorophene soap. In the present study this same sort of investigation was extended to two longer-established nitrofuran formulations, nitrofurazone soluble dressing with or without hydrocortisone.***

Material and Methods

The experiment design and procedures were in general those of our recent study of furazolium and furazolidone.[2] During July and August volunteers with skin infections were recruited in the greater-Charleston area through the information and referral centers of the Office of Economic Opportunity. Through various media, including visits by Boy Scouts to potential volunteers' homes, mothers were urged to bring children to any of 6 neighborhood locations, for examination and treatment by our medical team. The 262 volunteers (all Negro) who responded ranged in age from 1 to 18 (mean = 8) years.

By means of case-record forms which had been coded before patients were admitted to the study, volunteers were divided randomly into 3 approximately equal groups. Each participant was examined by a physician who recorded the locations, characteristics, number of sores, and the diameter of the largest sore. In the typical history the lesions had started as mosquito bites, which were scratched and became infected. Usually no treatment had been given.

In each case a swab specimen from a representative lesion was plated on blood agar, with bacitracin and nitrofurazone sensitivity discs, and on staphylococcus 110 media with nitrofurazone sensitivity discs.

Members of the non-nitrofuran control group (80 children) or their mothers were given hexachlorophene-containing soap and told to wash the lesions twice daily. Those in the second group (88 children) were instructed to wash with a nonmedicated soap and to apply a thin layer of nitrofurazone soluble dressing (NSD) twice daily. Patients of the third group (84 children) were told to wash with the nonmedicated soap and to apply nitrofurazone-hydrocortisone cream (NHC) twice daily.

Pre-treatment characteristics of the patients (Table 1) indicate that the 3 groups were comparable.

One week after therapy was started, volunteers were examined again by the same medical team

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***Furacin® Soluble Dressing (nitrofurazone 0.2% in polyethylene glycols); Furacort® Cream (nitrofurazone 0.2% and hydrocortisone acetate 1% in a vanishing cream base).

TABLE 1. CHARACTERISTICS OF STUDY

GROUPS Characteristic	Hexachlorophene Soap	NSD	NHC
No. of children°	80	88	84
Per cent boys	64	65	64
Per cent girls	36	35	36
Age, yr. (mean)	7.1	8.0	7.6
No. of sores (mean)	8.0	5.4	6.9
Area of largest sore, cm^2 (mean)	0.5	1.3	1.3
Per cent with Group A beta-hemolytic *Streptococcus*°°	6	14	10
Per cent with *Staphylococcus aureus*	72	64	66
Per cent of *S. aureus* strains sensitive to nitrofurazone	90	93	95

°After 10 patients were lost to follow-up (3 each in the first 2 groups, 4 in the NHC group).
°°All Streptococcus isolates were susceptible to nitrofurazone.

(though not necessarily by the same physician) that had performed the initial evaluation. Volunteers whose sores had healed completely were discharged from the study, and the condition of those whose largest sore had decreased in area, and whose sores had decreased in number, was rated as "improved." "Unimproved" patients were re-evaluated and their medication was changed as indicated. All patients who were not healed completely at the end of one week were examined again at the end of the second week of therapy. At each examination signs of hyper sensitivity reaction were looked for.

Results

The essential results are summarized in Table 2. At the end of the first week of treatment 18 (22 per cent) of the hexachlorophene control children were transferred to one of the other groups (16 to NSD, 2 to NHC) because their progress was not satisfactory. The number in these latter 2 groups who were rated at the end of the second week includes, therefore, some who had been under nitrofurazone treatment for only one week.

As far as can be judged under these conditions, there seems to have been a tendency for healing to be slower, during the first week of treatment, with NHC than with NSD. By the end of the second week, however, the proportion of children who were completely healed was comparable in the 2 introfurazone groups, and both were superior in this respect to the hexachlorophene group.

No rash, burning or itching, or other sign or symptom of sensitization or other adverse reaction was seen or reported in any of the 190 patients treated with the nitrofurazone preparations in this study.

Comment

The results of the present investigation confirm and extend those of the 1969 report from this Department on furazolium and furazolidone: at the end of 2 weeks treatment well over three fourths of those treated (in the case of NSD, nearly 95 per cent showed complete healing of sores, while in those treated with hexachlorophene soap the proportion was distinctly smaller. If the "improved" children are included in the calculation, the differences are even sharper: "healed + improved" patients at 2 weeks comprised 96 per cent and 100 per cent of the NCH and NSD groups respectively, 86 per cent of the furazolidone children, 94 per cent of those treated with furazolium, and 68 per cent or 78 per cent of the hexachlorophene-treated (in the 1969 and present reports, respectively).

Conclusions

In children either nitrofurazone soluble dressing (104 patients) or a cream containing

TABLE 2. RESULTS OF TREATMENT

Characteristic	Hexachlorophene		NSD	NHC
No. of children at start of medication	80		88	84
No. added to or removed from groups	−18		+16	+ 2
Total treated in each group	62		104	86
No. healed, 1st week	46		73	49
Percent healed, 1st week	58	(1)	70	57
No. healed, 2 weeks	61		98	76
Per cent healed, 2 weeks	76	(2)	94	88
No. improved, 2 weeks	1		6	7
Per cent improved, 2 weeks	1		6	8
No. unimproved, 2 weeks	18°		0	3
Per cent unimproved, 2 weeks	22		0	3

°These are the children who were transferred to other groups at the end of the first week of treatment.

(1) Chi Square = 3.188, $p < .07$
(2) Chi Square = 12,4515, $p < .001$

nitrofurazone and hydrocortisone (86 patients) was effective as medication in skin infection due to beta hemolytic Streptococcus or Staphylococcus; patients of both of these groups showed a superior rate of healing, compared with control patients treated with a hexachlorophene soap. There was no instance of sensitization or other adverse reaction.

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Acute Massive Pulmonary Embolism—G. A. H. Miller and G. C. Sutton. Brit Heart J 32:518-523 (July) 1970.

Twenty-three patients are reported in whom a diagnosis of acute massive pulmonary embolism was confirmed by pulmonary arteriography. All patients had a history of less than 48 hours' duration and only two had previous cardiorespiratory disease. In such patients the hemodynamic abnormalities determined at catheterization are due to pulmonary embolism as an isolated disturbance. These abnormalities include an only moderate degree of pulmonary hypertension (PA systolic pressure 38.4 ± 6.8 mm Hg), right ventricular "failure" (RVED 11.5 ± 4.9 mm Hg), arterial oxygen desaturation (86.4% ± 11.2%) and a wide arteriovenous oxygen difference (8.1 ± 1.8 ml/100 ml), and low cardiac output. These hemodynamic abnormalities find their expression in the presentation and the clinical ECG and radiological findings which are described in detail.

Meningococcal Arthritis: Report of Two Cases—H. L. Eichner and J. J. Deller, Jr. Arthritis Rheum 13:272-275 (May-June) 1970.

Two cases of meningococcal arthritis are reported, one an acute septic arthritis resembling gonococcal arthritis following a transient bacteremia, and the other, a delayed arthritis with painless knee effusions following resolution of meningitis. Arthritis is an occasional manifestation of meningococcemia with or without meningitis. It may occur as a polyarthritis without effusion during acute septicemia, or as a subacute arthritis with effusion involving one or a few larger joints while the generalized infection subsides. The pathogenesis of these two varieties of meningococcal arthritis may be different. In rare instances, an isolated septic arthritis without typical meningococcemia is found.

Depigmentation Caused by Phenolic Detergent Germicides—G. Kahn. Arch Derm 102:177-187 (Aug) 1970.

Five employees of a hospital housekeeping staff almost simultaneously developed depigmentation of the hands six months after the introduction of a surface-cleaning phenolic detergent-disinfectant. The causative component was **p-tert**-butylphenol; this is the first time germicidal detergents have been reported to cause group depigmentation. When tested under occlusion, the agent depigmented the skin of patients and controls; non-occlusive applications produced no pigment loss to humans or guinea pigs. One year after removal of the agent from the hospital, two patients began re-pigmenting. Concomitantly, in an adjacent hospital seven employees of the housekeeping staff reported depigmentation that also occurred six months after the introduction of another phenolic disinfectant. The causative component, **p-tert**-amyl phenlo, has not previously been reported to produce depigmentation or contact sensitization. Further studies showed that all phenolics which were tested could depigment skin. Those tested included hexachlorophene, **o**-benzyl **p**-chlorophenol and **o**-phenylphenol.

Gynecological Complications of Water Skiing—D. C. Morton. Med J Aust 1:1256-1257 (June 20) 1970.

Illustrations are presented of three types of gynecological complications occurring as a result of water skiing, and attention is drawn to the necessity for the use of adequate protective garments for all female water skiers. Lacerated vaginal vault occurred in one case, due to forcible impact of the perineum against the water surface. Incomplete abortion was caused in another, and injury in a third case caused salpingitis. In all three cases, only standard swimsuits were worn.

"PSYCHIATRIST, HUMANITARIAN, AND SCHOLAR" JAMES WOODS BABCOCK, M. D.

WILLIAM S. HALL, M.D.

South Carolina Commissioner of Mental Health

In the long eventful history of South Carolina many physicians have achieved wide recognition. In the foremost rank is JAMES WOODS BABCOCK, M.D., Fourth Superintendent of the South Carolina State Hospital — August 1, 1891, to March 14, 1914.

He was acclaimed internationally for his research, identifieation and successful treatment of pellagra, which was then the scourge of the South, and is now practically nonexistent.

Equally important and perhaps of more far reaching benefit to mankind were his ability as a psychiatrist (then termed alienist) and the far advanced therapy of mental illness he practiced in the South Carolina State Hospital. A close observer and an accurate diagnostieian through a large part of the Southland, Dr. Babcoek was the sympathetic adviser of physicians whose patients faced difficult mental problems.

During the pellagra era, physicians from far and wide came to confer with him. Victims of the dread disease came in great numbers, especially on Sunday, each hoping for some magie help. Regardless of race or station in life, each received the same humane attention and kindness. He never charged a fee, but their gratitude never failed to produce a gift, from a sideboard to baskets of peaches and many watermelons.

Dr. Babcoek was among the first, and the most advanced in this part of the country, in advocating the methods and revolutionary investigations and conclusions of Dr. Sigmund Freud.

James Woods Babcoek was born in Chester, South Carolina, August 11, 1856, the son of Dr. Sydney Eugene Babcock and Margaret Woods Babeock. His ancestral background is most interesting. This Puritan family came to Ameriea from Essex, England, in 1623, and settled in Massachusetts and Connecticut. For generations they were publishers. Their men attended Yale.

The eldest son of the distinguished Chester physician, he spent his boyhood in that community and attended the Chester Male Academy. He and Edward H. Strobel, whose family fled to Chester from war-torn Charleston during the War Between the States, were playmates and their elose friendship lasted through life. Strobel later beeame Professor of International Law at Harvard University and at the time of death in Siam he was the Legal Adviser to the King.

Strobel entered Harvard in 1873, and at the end of his first year, when visiting in Chester, persuaded Dr. Sydney Eugene Babcock to send James Woods for one year to Phillips Exeter Academy in Exeter, New Hampshire. James Woods went North and four years later graduated from Phillips Exeter Academy. He entered Harvard, graduating in 1882 with a Bachelor of Arts Degree, Cum Laude, with Honorable Mention in Natural History.

James Woods then entered the Harvard University Medical School and the Medical Degree was conferred in 1886. A treasured memory was that his was the last class to

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have the privilege of a lecture on anatomy by Dr. Oliver Wendell Holmes.

During his medical college course, a few months in 1883 were served with Dr. H. B. Howard at the Tewkesbury Almshouse where he decided to specialize in mental diseases. In January, 1885, prior to graduation, he was appointed medical interne and the following December, Assistant Physician at the McLean Asylum for the Insane at Somerville, Massachusetts. Later the name of the town was changed to Waverly.

After graduation from Harvard in 1886, he joined the medical staff at the McLean Hospital where he studied and practiced psychiatry for five years until his acceptance on August 1, 1891, of the appointment as Superintendent of the South Carolina State Hospital (then officially The Lunatic Asylum). Dr. Babcock became the fourth physician to accept the position.

From the time of his arrival in Columbia on August 1, 1891, Dr. Babcock was the personal physician and close friend of Governor Benjamin R. Tillman. When the terrible storm of 1893 devastated the South Carolina coast, Dr. Babcock went to the strickened area as the personal representative of the Governor, spending weeks helping the unfortunate people, many physically ill.

He was on the committee of physicians and surgeons requested by Governor William H. Ellerbe to investigate and report on the sanitary condition of the three military camps located in and near Columbia. He was on the Executive Board, S. C. State Board of Health, during the smallpox epidemic of 1898 and 1899. The Columbia City Council presented him with a silver cup as a token of appreciation for his valued services.

The best years of Dr. Babcock's life were devoted to care and studies for the benefit of South Carolina's mentally ill. In spite of small appropriations, inadequate facilities, extreme overcrowding, serious personnel problems and little of almost everything with which to operate, his accomplishments were many. Appropriations did not keep pace with the growth and needs of the hospital – deficits being the rule rather than the exception. Yet, his courageous work continued for those entrusted to his care.

Many splendid achievements stand forth as especially worthy of recognition – two of great medical interest were accomplishments with tuberculosis and pellagra. The problems of tuberculosis among patients in mental hospitals, including his own, were of concern. In the article, "The Prevention of Tuberculosis in Hospitals for the Insane", published in the *American Journal of Insanity,* October, 1894, he observed that the incidence was highest in patients with prolonged mental reactions. His model therapy with carefully outlined preventive measures was followed for years.

His study of pellagra as found in the South Carolina State Hospital was reported to the Board of Regents and the Medical Staff in December, 1907, and later published in the April, 1908 issue of *The American Journal of Insanity.* It was recognized in thirty-four states, including the District of Columbia, with an estimated 5,000 cases in the United States in the period 1907 - 1910.

Dr. Babcock's research and discoveries more than those of any other American stimulated inquiry into the pathology of the disease and the treatment necessary to cure or to check its advance. While it is not said that the elimination of pellagra as a grave menace to public health was due entirely to his exertions, certainly he was the pioneer in recognizing and combatting it effectively in the South.

Under the auspices of the Board of Regents, a Conference on Pellagra was held at the S. C. State Hospital in October, 1908, and a National Conference was convened here in 1909. Again in 1910, there was a clinic at the Hospital. All meetings were well attended by local, national and international members of the medical profession and the laity. In addition, there was international press coverage. Dr. Babcock prepared and had published many articles on the subject.

He founded the Association for the Study of Pellagra and was the first President from 1910 to 1912, then becoming the Secretary.

While Dr. Babcock's great services in the realms of medicine and science were largely

recognized and appreciated in his own state and country, he was still more highly esteemed by scientific men in other lands.

"The Treatise on Pellagra" by Dr. A. Marie, Physician to the Asylums, Department of the Seine, Editor-In-Chief, Archives de Neurologie, and Director, Laboratory of Pathological Psychology, Ecole Des Hautes Etudes, Paris, France, an abridgement of Dr. Lombroso's monumental effort, was published in 1910. With Dr. C. H. Lavinder, Dr. Babcock had the honor of preparing an authorized translation from the French of this remarkable book, the only one in English on the important subject of pellagra.

Emphasized throughout the years was the urgent need for revision of the Statutes referable to admission of patients. He advocated simplifying the admission law to protect the rights of individuals. In 1895, the General Assembly enacted a new Statute under which the Superintendent of the Hospital made the decision as to the acceptability of the individual.

Of tremendous concern were the overcrowded conditions, need for additional buildings, and for the training of personnel to provide improved standards of care. Toward this goal, in 1891, soon after becoming Superintendent, Dr. Babcock instituted a training school for nurses, women and men, with attendants being encouraged to enroll. On January 1, 1892, the first class of seven women and five men was organized by Miss Katherine Guion who had been associated with him at the McLean Hospital, Waverly, Massachusetts, and who in that same year in Lincolnton, N. C., became his wife.

In 1894 - 1895 the Columbia Hospital extended to the student nurses the privilege of spending four or five months of their two years training on the wards of that hospital—which was, to our knowledge, the first affiliation with a general hospital.

Dr. Babcock's first year in office, in addition to enhancing nursing care, was devoted to increasing the program of therapeutic activities with emphasis on occupational therapy, improvement of the already beautiful grounds, and development of the farms and dairy.

Dr. Babcock's negro patients and the trends evident in their mental disorders interested him intensely and he continually made strong pleas for their better care in all state hospitals. In the *American Journal of Insanity* for April, 1895, appeared his paper on "Communicated Insanity and Negro Witchcraft". In this was traced the influence of a Negro Witch Doctor.

Dr. Babcock was particularly distressed about the imperative need for permanent, comfortable quarters for negro men patients.

The Parker Building, named for the first Medical Superintendent, Dr. J. W. Parker who had earlier suggested such accommodations for negro men, was completed and the main section occupied by them on August 15, 1898. Because of insufficient appropriations for this structure, the services of an architect and contractor could not be afforded. Both positions were filled by Dr. Babcock personally with the valued assistance of Mr. W. H. Wylie, chief engineer, and Mr. John Milady, foreman of the work.

Effective in 1895, the name of The Lunatic Asylum was changed to the S. C. State Hospital for the Insane. Dr. Babcock's intense desire was to shield the mentally ill from curiosity seekers and to effect an attiude of acceptance, helpfulness, and understanding. He labored diligently to remove the unkind, unnecessary stigma that ignorance, intolerance and lack of sympathetic understanding placed upon mental patients.

The year 1896 was of great importance and most pleasing to Dr. Babcock. No less than five major Acts in behalf of the hospital were passed by the General Assembly. Among them, considered second in importance to the founding of the hospital, was the authorization for the purchase of the Colonel William Wallace property of 108 acres with four large wooden residences directly opposite and to the north of the Mills Building.

The Colonel Wallace Mansion, the largest residence, was enlarged to thirty rooms, completely modernized and occupied by convalescent white women patients. Appropriately the building was named for Miss Doro-

thea Dix, who visited here several times and participated in fund raising campaigns.

In his contacts and communications with the General Assembly, Dr. Babcock emphasized other revisions of the Statutes, especially toward having county homes provide for harmless but helpless patients and the geriatric cases instead of sending them to the S. C. State Hospital.

The first woman physician, Dr. Sarah Campbell Allan of Charleston, assumed her position on October 1, 1895, and remained until May 1, 1907. She was succeeded by Dr. Eleanor B. Saunders. In 1954, two buildings at the S. C. State Hospital were named for these fine pioneer women physicians.

Other firsts during Dr. Babcock's administration were the addition of a pathologist, Dr. Ernest Cooper; a dentist, Dr. S. F. Killingsworth and an oculist, Dr. E. M. Whaley.

A unique and not too well known occurrence was in January, 1909, when, with the Board of Regents, Dr. Babcock requested the General Assembly to investigate and report upon the conditions and affairs of the hospital. A joint commission of seven members appointed by the Senate and the House of Representatives asked why the investigation was requested. Dr. Babcock submitted twenty-four reasons why the Legislature should get in closer touch with the hospital and more fully understand and appreciate the needs.

Among the suggestions were — that the valuable property within the City of Columbia remain in the possession of the hospital— and that, for better care of the two races, land near Columbia be purchased on which a hospital (formerly Palmetto and now Crafts-Farrow State Hospital) for negroes be established and kept under the present management. On July 19, 1910, the Legislative Commission met in joint session with the Board of Regents and agreed, among other things, that to dispose of or remove the State Hospital from the city location would not be practical. The recommendation was that the present plant be improved and modernized. There was also agreement that lands near Columbia be purchased immediately and a hospital for negroes be established, with both remaining under the current management.

Between 1910 and 1913, there was purchased 2200 acres to the north, near the Southern Railroad, about six miles from the S. C. State Hospital. Thus, after nearly a century of efforts in behalf of the mentally ill, the State of South Carolina embarked upon extensive plans for colonizing patients in a hospital community in the healthful sandhills of Richland County. The entire area was called State Park, no reference being made to the name Asylum or Hospital.

State Park was dear to the heart of Dr. Babcock, and he rejoiced in the transfer of the first group of men in 1912. He once said, "There is no question before the people of this State which presents such strong claims upon our common humanity as the care of these afflicted citizens of the Commonwealth."

Dr. Babcock had a passion for books. He loved them. At home or abroad, he frequented bookshops. When in France with Senator Tillman, the queer little old bookshops along the banks of the Seine were his constant delight. He frequented the Gittman Bookshop on the 1200 block of Main Street in Columbia almost daily to browse among the books, and to be with his close personal friend, Mr. James T. Gittman, and the little group of bibliophiles who gathered there. An excellent photograph of Dr. Babcock hung in the Gittman Bookshop for years and was transferred to the new location on Devine Street in Five Points, a subdivision of Columbia, South Carolina.

Dr. Babcock was an insatiate reader. His mind was a veritable storehouse of local and state history and of anecdotes. He was an early discriminating collector of antiques and had an innate feeling for the beautiful. In the Caroliniana Library, is a presentation by him of his youthful collection of Indian relics from his Chester County neighborhood. His collection of rare stamps is now in the Smithsonian Institute in Washington, D. C.

Although a very busy man, intensely interested in the patients, Dr. Babcock eagerly served his community in various capacities. He was active in civic and cultural affairs. His most notable efforts were as chairman of the

two commissions that installed the Columbia sewerage system and constructed the waterworks system. He was also a member of the City Board of Health.

He was a charter member of the exclusive Kosmos Club organized in October, 1905, at the residence of Professor G. A. Wauchope on the University of South Carolina campus. This club with a small, selected membership, was devoted to literary, scientific and social interests.

Dr. Babcock was a member of the Legislative Committee to erect a suitable monument to General Thomas Sumter. In 1905 in grateful recognition of his services to the State, the University of South Carolina conferred upon him the degree of LLD. At that time, the press declared that "South Carolina had produced no more useful citizen before the War or since."

He was a member of the Board of Directors, National Loan and Exchange Bank, and membership in various groups included the following: S. C. Historical Commission, the S. C. Medical Association and the American-Medico Physiological Association.

From 1915 until his death in 1922, he was Professor of Mental Diseases at the South Carolina Medical College in Charleston. One of his joys was meeting there every Thursday the group of young students for discussions of mental disorders. Although he had published nothing on the subject, in later years he became tremendously interested in the new psychology, and there was little in existence from either the school of Freud or that of Jung that he had not mastered.

As we have said, over the years the financial situation at the hospital was usually very precarious, appropriations were inadequate and deficits were the rule rather than the exception. The hospital was greatly understaffed. Although the superintendent was appointed by the Governor of the State, all other appointments were made by the Board of Regents. Over these staff members and all other personnel, Dr. Babcock had no control and no authority. All hiring and firing were in the hands of the Board of Regents.

An investigation was requested of the General Assembly by Dr. Babcock in January, 1909. Another quite different investigation occurred in 1913 under the above mentioned embarrassing circumstances.

There were many false accusations, among them that Dr. Babcock had caused injury to the reputation and progress of South Carolina by calling attention to the prevalence of pellagra in our State. There were many rumors and cross currents among the staff members, based apparently on petty jealousies and misunderstandings.

It would appear that conditions for which he was not responsible were exploited by powerful and influential persons, and for a while his labors for the hospital were unappreciated. He was bitterly attacked and his work criticized and belittled. Praise which was due him was denied, and his countless efforts discounted. Although zealously defended, the situation was too much for his sensitive soul. His friends remained steadfast and their loyalty and devotion were a great solace to him.

The report of a special Legislative Committee in 1914 resulted in Dr. Babcock's complete exoneration; and in addition, a thorough reorganization of the hospital policies, including among other notable changes, the provision that the staff be appointed by the superintendent. Notwithstanding this action, the situation had become so unpleasant that on March 14, 1914, Dr. Babcock resigned.

He immediately established and most successfully administered the Waverly Sanitarium, a private facility for the treatment of nervous and mental diseases in Columbia, S. C. Appropriately, the sanitarium was named Waverly for the place in Massachusetts where Dr. Babcock first had experiences with the mentally ill at the McLean Hospital. The next eight years were spent working in his private hospital.

Following a brief illness, he passed away suddenly in his home at Waverly Sanitarium on the morning of March 3, 1922. Messages of sympathy and eulogies from throughout the nation and from abroad were received by



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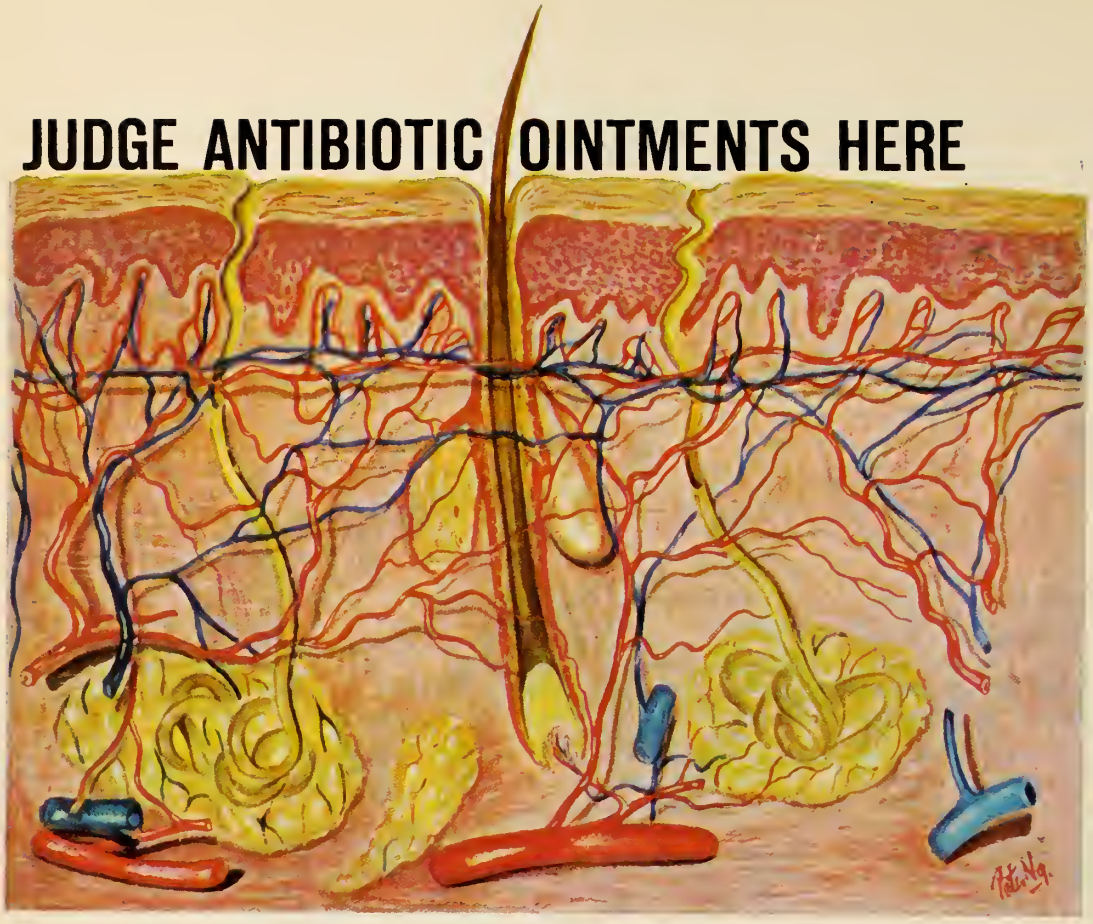
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Mrs. Babcock and the three daughters. Tributes appeared in the local, national and international press.

As a signal honor to Dr. Babcock, the flag on the State House was flown at half mast, and the city fire bell tolled during the hour of the funeral services at the Columbia residence. Final rites were in the family plot at Purity Presbyterian Church near Chester.

Thus ended a wonderful and noble life devoted to self-sacrificing service to the mentally ill of his native State!

An editorial tribute in "Rivista Pellagrologica Italiana" (Italian Pellagra Review) in the January-April, 1922 issue was translated for the State newspaper by Dr. Oscar L. Keith, University of South Carolina.

It read in part:

> "With renewed sorrow we announce the Death of Dr. J. W. Babcock, Columbia, S. C.
>
> "He was the first to recognize Pellagra in the United States and to identify it with Italian Pellagra. But he had to struggle long and suffer many bitter checks before the truth announced by him was imposed on the American Medical World and pellagra came to form part of official pathology.
>
> "It is due to his studies, to his researches, to his tenacious propaganda with word and pen in articles in the press and in scientific reviews, to his communications before annual congresses of the American Medical Association or in the biennial meetings of the National Association for the Study of Pellagra, founded and directed by him that the United States Public Health Service has vigorously enforced and conducted the fight against the new scourge that was already dealing its blows in the Southern States, achieving in little more than a decade the present comforting results."

With the completion and occupancy of the Administration Building of the South Carolina State Department of Mental Health in June, 1969, the South Carolina Mental Health Commission shortly thereafter in regular session adopted a Resolution changing the name of the previous Administration Building on the S. C. State Hospital Campus to that of the Babcock Building. A bronze plaque in the lobby cites Dr. Babcock's contributions toward the eradication of pellagra. This spacious, magnificent structure surmounted by the widely known dome will immediately be renovated and converted into accommodations for patients.

As time goes on and there is reflection upon what has been done, there will be more recognition of his accomplishments and Dr. Babcock's place as one of South Carolina's greatest men will be more firmly established. His renown will increase with the passage of time.

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CLINICOPATHOLOGICAL CONFERENCE

OF

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A 33 year old Caucasian female was admitted to the Medical University Hospital comatose and in shock in September, 1969. She had been pregnant six times in the past with three babies having been delivered at term and three pregnancies terminating in abortions.

In 1963, she had undergone a bilateral tubal ligation after delivery of her last child, which was born alive without complications.

In February 1966, episodes of weakness and fainting led to the patient's hospitalization in another city. Physical examination revealed a 5′ 7½″, 155 pound obese female with a slight recent weight loss. Blood pressure was 90/70, her normal being 125/80. Temperature was 100.8°F and pulse was 88. Laboratory studies revealed a hemoglobin of 11.4 gms, leucocytes 7,100 with 73 per cent neutrophils, 13 per cent band forms, 11 per cent lymphocytes, 2 per cent monocytes, 1 per cent basophils and no eosinophils. A fasting blood sugar was 103 mg per cent. Urinalysis was unremarkable except for the fact that pyuria was present. Serum electrolytes were not studied, and skull x-ray films were negative. T3 uptake was 41 per cent. The patient was treated supportively and discharged five days after admission.

In April, 1968, the patient was admitted to another hospital with complaints of lower abdominal pain of several months duration, dysmenorrhea, and dyspareunia. Her menstrual periods had always been regular. Physical examination revealed her abdomen to be tender without rigidity. Blood pressure was 130/80. Laboratory studies revealed a hemoglobin of 15.8 gms, 7,200 leucocytes with a normal differential and negative urinalysis. Electrolyte values are not available. A simple hysterectomy was performed along with appendectomy and removal of a small right ovarian cyst. There were no postoperative complications, and the patient was discharged from the hospital with a diagnosis of chronic cervicitis and endometritis. Due to her continuing lassitude at this time, her physician placed her on a non-specified dose of thyroid supplement. Thyroid studies were not done at this time.

In February, 1969, the patient was admitted to another hospital with streptococcal pharyngitis and marked weakness. On physical examination her skin was cold and clammy. Her blood pressure was 70/50, pulse was 50. The physical examination was otherwise negative. No weight was obtained. Laboratory studies revealed a hemoglobin of 13.6 gms, with 7,200 leucocytes and a normal differential. Urinalysis was negative. Her glucose tolerance curve was flat. The patient was treated with penicillin and triacetylo-

leandomycin and supportive therapy. She improved and was discharged on the fourth hospital day on no medication after an unremarkable hospital course.

In August, 1969, the patient was admitted to another hospital with complaints of epigastric discomfort, morning nausea and dizziness. Her family felt that her lips, lower back and skin around her eyes had become darker. Weight was 145 pounds and the skin was dry. Blood pressure was 110/80, pulse 72 and temperature 98.0°F. Laboratory studies revealed a hemoglobin of 11.8 gms, leucocytes 4,249 with 46 per cent neutrophils, 47 per cent lymphocytes, 2 per cent monocytes, and 5 per cent eosinophils. Sodium was 134 mEq per liter and potassium was 4.5 mEq per liter. Fasting blood sugar was 90 mgs per cent. Total cholesterol was 192 mgs per cent and T3 uptake was 33 per cent. Proteins were normal. Upper gastrointestinal and gallbladder series were normal. The patient improved and was discharged 4 days after admission on antispasmodics, with a diagnosis of hypothyroidism and pylorospasm.

In September, 1969, the patient entered another hospital with complaints of being weak and dizzy and having fainting spells. On physical examination her blood pressure was 90/60, pulse 96 and temperature 99.6°F. Laboratory studies revealed a hemoglobin of 12.6 gms, leucocytes 4,906 with 41 per cent neutrophils, 52 per cent lymphocytes and 7 per cent eosinophils. Urinalysis revealed a specific gravity of 1.006 with slight pyuria. Fasting blood sugar was 83 mgs per cent and total cholesterol was 192 mgs per cent. An oral glucose tolerance test was performed with normal results. An intravenous glucose tolerance test was performed and an episode of profound sweating and shock followed for an undeterminate period. Blood pressure was unobtainable, and a continuous intravenous drip was started containing 5 per cent glucose, 200 mgs Aramine, 100 mgs Solucortef and 1 mg Digoxin. An immediate intravenous injection of ½ cc Aramine and 100 mgs Solucortef was also given. 1/100 gr atropine and 20 mgs Compazine were given intramuscularly for nausea. The patient's blood pressure increased to 80 systolic. An electrocardiogram revealed a borderline low voltage sinus rhythm, nonspecific ST changes, and prolonged QT interval. The patient's condition did not improve, and she was transferred to the Medical University Hospital the day after the hypotensive episode.

The patient's intravenous needle became dislodged enroute to the Medical University Hospital and she arrived here comatose and without detectable blood pressure. Another intravenous infusion containing normal saline with 200 gms Aramine was started at a rate that would keep systolic blood pressure above 90; 100 gms Solucortef was added every 8 hours to the intravenous infusion. Thyroxin, .2 mgs was given intramuscularly. On physical examination she had dilated unresponsive pupils, hypoactive bowel sounds, short, stubby, cyanotic fingers, and a puffy face. Her skin was dry and crinkly and her hair was coarse. Pubic hair was sparse. There were no discernible pulses. Lips, palmar creases and periorbital areas appeared hyperpigmented. She was totally areflexic and responded to stimulation only after her blood pressure was raised. Insulin was started on a sliding scale. Laboratory values revealed hemoglobin of 14.5 gms, leucocytes 13,800 with 56 per cent neutrophils, 38 per cent band forms and 6 per cent lymphocytes. No eosinophils were reported. Sodium was 110 mEq per liter, potassium was 4.7 mEq per liter, chloride was 87 mEq per liter and CO_2 was 22 volumes per cent. BUN was 23 mgs per cent. Blood sugar was 492 mgs per cent. Total cholesterol was 292 mgs per cent, serum osmolality was 249 mOsm, urine osmolality was 308 mOsm. Urinalysis revealed a pH of 5.0, specific gravity of 1.010, 1+ albumin and 2+ sugar with no acetone. There were 2-4 leucocytes per high power field and 2+ casts. Astrup studies showed a pH of 6.92, PCO_2 62 mm of mercury, PO_2 38 mm of mercury.

Twelve hours after admission the patient's blood pressure dropped to 66/40 and her respirations became slow and irregular. Electrocardiogram showed a large slow wave pattern. The patient responded to intracardiac epinephrine and was placed on a

Bird respirator. Her heart arrested a few minutes later, and she was given intracardiac epinephrine. Cardiac action resumed, but she began to have intermittent seizure activity with jerking of her eyes, face, arms and neck. $NaHCO_3$ was given intravenously.

One hour later, the patient arrested again, and multiple efforts at resuscitation were futile. She expired thirteen hours after admission.

Dr. Buse: The creases in this patient's palms were relatively dark and the lips appeared hyperpigmented but there was no pigmentation of the buccal mucosa. The most important feature, however, was the fact that she did not have pigmentation of her perineum. In most patients with chronic adrenal insufficiency, if they have pigmentation, and by the way they all do not show pigmentation, the perianal area is usually the darkest skin area. This she did not have. The skin of her face had a texture comparable to that of fine crepe paper. It was crinkled but not grossly wrinkled. The texture of her subcutaneous tissue felt turgid or relatively firm. This is a finding which one finds in myxedema or hypopituitarism. In hypopituitarism there will be a myxedematous condition of the skin, particularly with bags under the eyes. The patient herself, however, did not appear myxedematous. This patient had been unwell for quite a while having undergone a salpingo-oophorectomy in 1953. In 1966 she complained of weakness in her fingers. We see that she was a relatively tall woman with a relatively low blood pressure, 90/70. Her blood sugar showed that she was not hypoglycemic at this time. The T3 of 41 per cent is unfortunately of little help because there are three methods of making this determination, each with a different normal value. The method used in this institution has a normal range of 25 to 35 and by our present method of determination this would be elevated and be presumptive, but not concrete evidence of thyrotoxicosis. On her admission in April, 1968, in addition to her various other complaints which eventuated in a hysterectomy she also complained of continuing lassitude and she was given a thyroid supplement on the presumption of hypothyroidism. Very often, however, thyroid extract is given as a means of perking people up. Her referring physician stated that she was hypothyroid at the time she was admitted to this hospital and had been on thyroid extract. Less than a year later in September, 1969, she was admitted with a profound weakness and a blood pressure of 90/60. Her glucose tolerance test was flat. What does a flat glucose tolerance curve mean? About 20 per cent of patients will have a so-called flat glucose tolerance curve, but people with Addison's disease do show a flat curve. Individuals with gastro-intestinal problems may have flat glucose tolerance curves. The flat curve indicates that the patient was not intolerant of glucose at this time and is presumptive evidence that she did not have diabetes mellitus. In August, 1969, the patient was admitted with complaints of epigastric discomfort, morning nausea and dizziness. Her family thought that the skin over her back and on her lips and around her eyes had become darker. This is an historical finding which may be important and significant. She had lost ten pounds in three years time. I do not know whether the patient was considered to have hypothyroidism at this particular time as she had been under therapy, or whether this was a carry-over diagnosis from previous admissions. These are the kind of symptoms which patients have with adrenal insufficiency. Weakness is a common feature, frequently accompanied by anorexia, nausea and vomiting as a crisis approaches. Postural hypotension is a relatively common feature in adrenal insufficiency. This postural hypotension is initially frequently interpreted as fainting. I wish to emphasize again her blood pressure was low — 90/60. The patient then had an oral glucose tolerance test which was normal. For some reason following this it was decided to perform an intravenous glucose tolerance test on this patient. Probably the oral glucose tolerance test for a patient who has been eating fairly well every day is the most reliable method for searching out diabetes. The results are better because the test has been used for a long period of time and is well standardized. An intravenous glucose

tolerance test is a perfectly valid test and is most frequently used in such situations as pregnancy where there are strange patterns of absorption of sugar such as the rapidity, etc. Something happened with the patient when this test was performed in that she experienced profound sweating and shock for an indeterminate period. Why in the world would an individual develop a shock-like state from the administration of intravenous glucose? One of your first suspicions would concern contaminated fluid or apparatus but this is not likely. What happens when you give people intravenous sugar? If they still have intact islets and have an adequate source of insulin they will pour out considerable quantities of insulin. Under these circumstances, what type of patient would go into shock? The answer is a patient who is very insulin sensitive and the type of individual who is probably the most sensitive is one who has inadequate gluconeogenesis. The material which gives you normal gluconeogenesis day by day is, of course, cortisol. In a way you are really performing an intravenous insulin tolerance test when one uses the intravenous glucose tolerance test technique. Normal people occasionally become shaky and sweaty with an intravenous glucose tolerance test. A glucose tolerance test can bring forth so-called spontaneous or reactive hypoglycemia which characteristically occurs from an hour and half to three hours into a glucose tolerance test. Such individuals rarely become unconscious however. The pigmentation of the skin together with this response to a glucose tolerance test should certainly make one suspicious of adrenal insufficiency of which there are several different varieties. The patient was in vascular collapse and appropriate things were done. She did not respond and was comatose when she arrived at this hospital. The dilated nonreactive pupils was an ominous sign. The sparse pubic hair may be significant. The distribution and quantity of hair shows a lot of individual variability. This patient's hair was definitely sparse, however, and this leads one back to the consideration of either adrenal insufficiency with lack of androgen production or relatively severe myxedema which will also cause an individual to lose hair. The difference between the loss of hair in myxedema and that due to adrenal insufficiency is that in the former there is a loss of body as well as head hair whereas in the latter only the body hair is apt to be depleted. The patient with primary adrenal insufficiency does not lose head hair but does lose body hair. This is again a clue pointing to adrenal dysfunction. In the next admission the sodium is reported as 100 mEq per liter which is profoundly low. The potassium is normal. The chlorides and the CO_2 combining power are also low, a finding usually associated with acidosis. The BUN of 23 is probably within normal range, possibly slightly elevated. What would we expect to find in adrenal insufficiency? The most constant finding in pure untreated adrenal insufficiency is an elevated blood urea nitrogen which represents the contracting blood volume. They are losing sodium and classically potassium is elevated and the sodium down.

There is a remarkable blood sugar here of 492 milligrams per cent. This would ordinarily mean diabetes mellitus but this patient was in peripheral vascular collapse and was receiving glucose. Two organs that control blood sugar level day by day are the pancreas with its insulin production and the kidneys with their ability to excrete glucose. It is most likely that her blood sugar is elevated due to the parenteral administration of the glucose. The cholesterol was elevated to 292 milligrams per cent which could go along with poorly controlled diabetes as she has several other cholesterol determinations which were approximately 100 milligrams per cent less. Her serum osmolality was low. The urine osmolality was higher than the serum osmolality and this is the classical thing that one sees in adrenal insufficiency. The presumption is that there is more soduim in the urine than there is in the plasma which is a marked change. There are some problems in making this assumption, however, because the patient had glycosuria. The significance of the urine having increased osmolality is at least compromised by the glycosuria. These are also the

type of Astrup studies which occur in a patient in extremis with a poor oxygen exchange who is developing lactate acidosis. This patient went through just the course that a patient with adrenal insufficiency would undergo. I tended to discount the significance of the skin pigmentation because of the lack of perianal hyperpigmentation. I believe she still had hypothyroidism because of the thyroid problem in the past. When these two features both show up, it is more likely that there is an essential cause and I thought the patient much more likely to have hypopituitarism with secondary adrenal failure. The electrolyte findings were so confusing that I did not believe that adrenal insufficiency alone could account for them, particularly a sodium that was this low. It is possible but not likely. I felt that there was some lesion in this patient's head that was responsible for so-called cerebral salt wasting; a lesion going on in her head which was producing hypopituitarism plus cerebral salt wasting. She had inappropriate ADH; she did have the dilution phenomena which one sees with this. The other alternative was a relatively rare bird known as Schmidt's syndrome. This is an eponymic term for a syndrome in which there is primary adrenal failure or Addison's disease plus primary hypothyroidism. Some patient's with Schmidt's syndrome do have diabetes mellitus. The pituitary is normal in these cases and the auto-antibody mechanism has been invoked in this syndrome. Not all patients with Schmidt's syndrome have diabetes but there is a high incidence of it in these cases.

Dr. Pettit: In films taken shortly before death there is extensive consolidation of the right lung. The periphery is so homogeneously dense that I believe this is due to pleural effusion. Some of the ribs are a little closer together than they should be so that we have a mixture of atelectasis, pulmonary consolidation and right pleural effusion. The patient probably had aspiration pneumonia which occurred during the period of unconsciousness on her way to the hospital. The stomach is grossly dilated with air. There appears to be a normal duodenal cap so that this is not due to obstruction but indicative of air hunger in

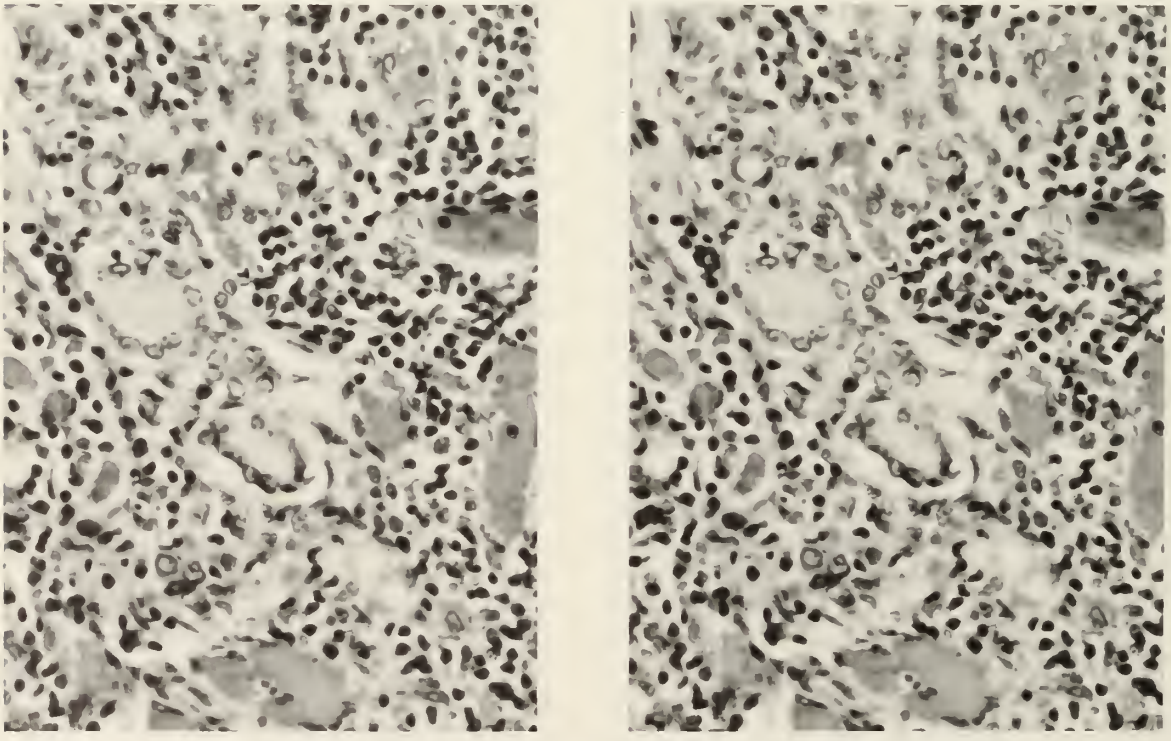


Figure 1. Section of thyroid shows atrophy and a heavy lymphocytic infiltrate. H&E x 250.

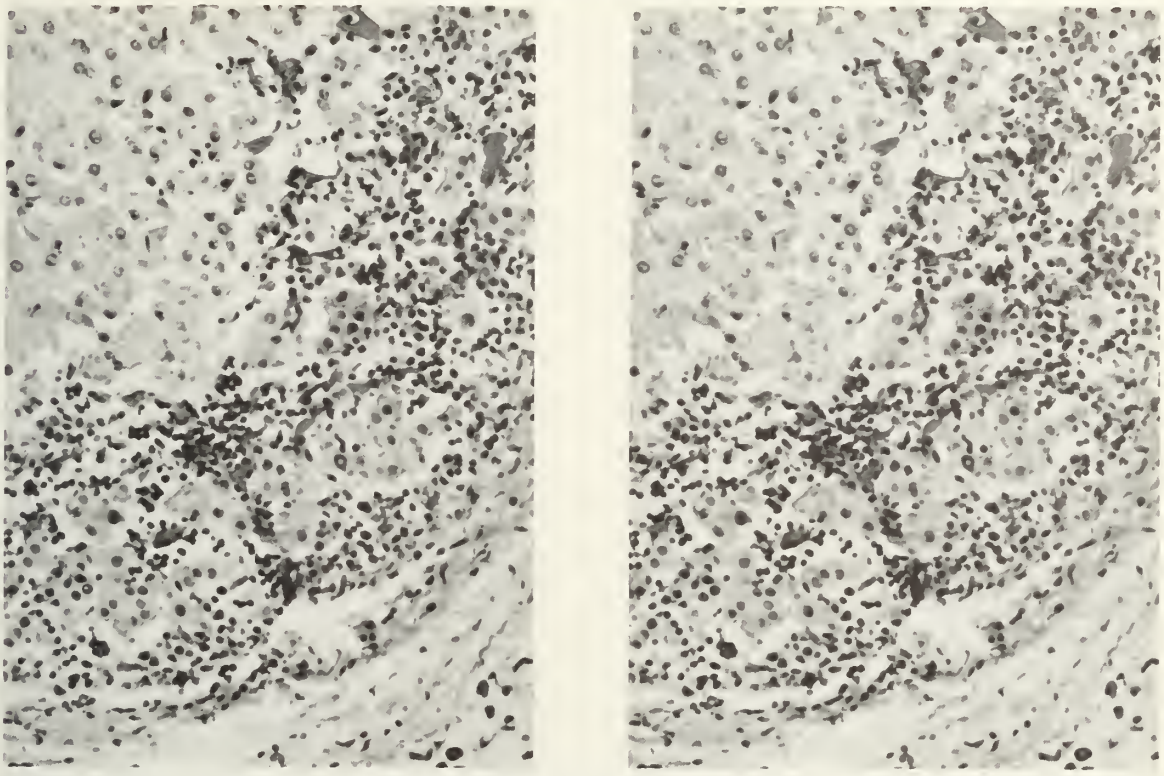


Figure 2. Nodular remnant of cortical cells with lymphocytic and plasma cell infiltrate. H&E x 100.

which she is not only sucking in air but is swallowing it as well. The heart does not have the shape of that seen in Addison's disease. The skull films show a perfectly normal sella. There is no decalcification or pointing of the clinoid processes and thus no evidence of pituitary adenoma or other form of tumor in the pituitary fossa.

Dr. Buse: When one reviews a chart at the conclusion of the patient's illness, one often finds the foot prints leading to the correct diagnosis marked across its pages. The generally low blood pressure, the weakness, the gastro-intestinal complaints, the marked sensitivity to glucose all point to adrenal insufficiency.

Dr. Pettit: Perhaps it is even possible for her to have tuberculosis in the right lung.

Dr. Buse: There is also the possibility of bronchogenic carcinoma. Although the incidence of adrenal metastases in this disease is quite high, the development of hypoadrenalism secondary to metastatic foci is really quite low. Certainly the films as interpreted by Dr. Pettit lead one away from hypopituitarism, at least certainly Sheehan's syndrome.

Student Elmore: Dr. Buse, since bronchogenic carcinoma has been mentioned, what do you think the possibility of such a tumor producing an ACTH-like substance and accounting for hyperpigmentation?

Dr. Buse: This is a possibility but one would have to explain the hypothyroidism on some other basis rather than relating all the symptomatology to one disease entity or one syndrome.

Dr. Hennigar: *Final Pathological Diagnosis: Schmidt's Syndrome.* This case presents adrenal atrophy with a presumably related atrophic lymphocytic thyroiditis. Miss Taylor will summarize the necropsy findings.

Miss Taylor: At necropsy there was increased pigmentation about the eyes, nipples and palmar creases. The hair was coarse and was diminished in the axillary and pubic regions.

The heart was normal.

Both lungs were massively edematous. The

left lung weighed 760 grams and the right 840 grams. There was 500 ccs of serosanguinous fluid in the right pleural cavity. There was no evidence of pneumonia, tuberculosis or neoplastic disease.

The kidneys were grossly normal. Microscopically there was thickening of the basement membranes as shown by the "wire-loop" which were prominent in the glomerular tufts. a minimal lymphocytic infiltrate was present in the cortex.

The thyroid was a small, gray, fibrotic mass weighing 6 grams which is one-fourth the normal weight. Microscopically, there were very few follicles, with the gland being replaced by lymphocytes, plasma cells and fibrous tissue. (Figure 1)

We searched for the adrenal gland by serial blocks of the suprarenal abdominal fat, and only thin dark brown streaks were found. Weights were unobtainable. Microscopically, the medulla was intact and a small clump of fasiculata-reticularis type cortical cells was found nearby. (Figure 2) A lymphocytic infiltrate with occasional plasma cells was seen interspersed among the few remaining cortical cells and collagen surrounding the medulla. (Figure 3)

The ovaries were grossly normal but varied in size. The left ovary weighed 10 grams and the right ovary 4 grams. Microscopically, there was relative stromal proliferation, a few follicles and scattered remnants of corpora albicantia.

Dr. Powers: M. B. Schmidt[1] described two patients with nontuberculous Addison's disease and chronic lymphocytic thyroiditis in 1926. The coexistence of non-tuberculous adrenal insufficiency and thyroid dysfunction has come to be known as Schmidt's syndrome. Subsequent reports have not only documented this association, but have shown a significant incidence of other endocrinopathies, notably diabetes mellitus.

The question was raised in the differential diagnosis whether the ovarian picture and thyroid picture might not be secondary to a primary pituitary failure rather than due to primary target organ disease. The adrenal can quite satisfactorily answer this problem

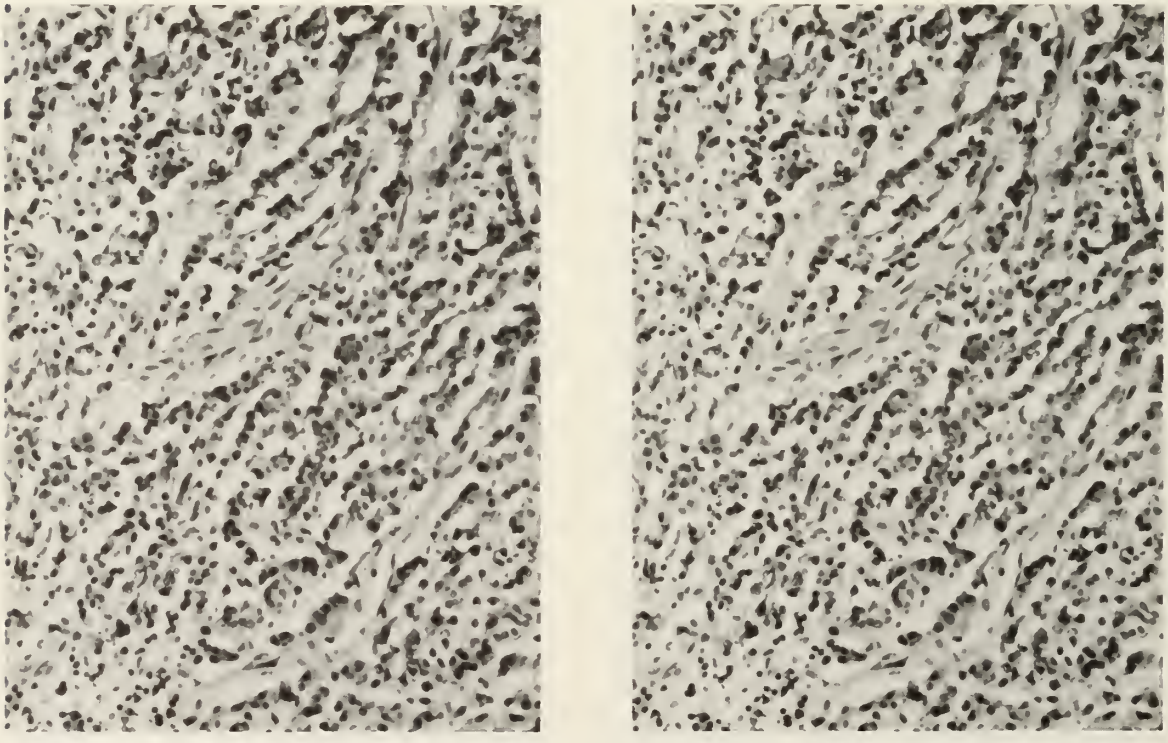


Figure 3. Complete adrenal cortical atrophy with fibrosis and infiltration with lymphocytes and plasma cells. H&E x 100.

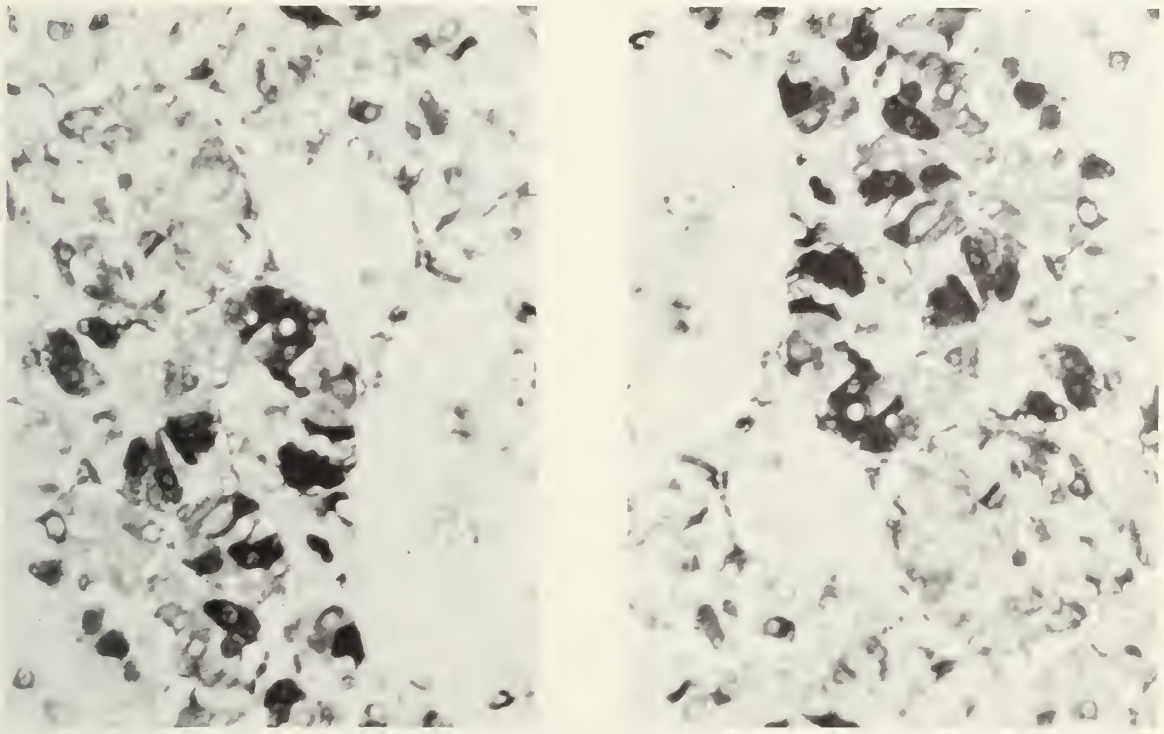


Figure 4. Numerous TSH cells immunostained with varying degrees of intensity with the immunoglobulin bridge technique employing TSH antisera. x 400.

since the findings in the adrenal in hypopituitarism are distinct from those found in Addison's disease. In hypopituitarism the cortex is affected by the loss of the inner zones, that is, the fasciculata and reticularis. However, the zona glomerulosa of the cortex and the medullary areas are well preserved. On the contrary, in Addison's disease the entire cortex including the zona glomerulosa is lost or severely damaged by the lymphocytic infiltrate. In Addison's disease the medulla is spared as in hypopituitarism.

Breener and Wells[2,3] emphasized the similarity of the histopathologic picture in the thyroid and the adrenal. They also drew attention to the fact that thyroid involvement was more frequent in Addison's disease of non-tuberculous etiology. Probably the earliest report of the triad of adrenal insufficiency, hypothyroidism and diabetes mellitus with adequate clinical and pathologic studies was recorded by Gowen[4] in 1932. Bloodworth, Kirkendall and Carr[5] in 1954 were the first to suggest that an immunologic mechanism might be responsible for the Schmidt's syndrome suggesting that some antibody accumulated in the thyroid as a result of the loss of the protective effect of adrenal cortical hormone. Carpenter[6] et al in 1964 discussed the concept of Schmidt's syndrome and presented the clinical studies on fifteen new cases. Of these fifteen cases, ten had diabetes mellitus, thirteen had circulating antibodies against thyroid tissue and nine had antibodies against adrenal tissue.

Dr. Hennigar: I wish to emphasize that there is nothing different or specific about this adrenal which separates it from any other case of Addison's disease due to idiopathic or primary adrenal cortical atrophy. We have presented other cases here with an identical picture, but the concomitant atrophy and lymphocytic infiltration of the thyroid does place this case in a special category.

Furthermore, there is nothing specific about this ovarian picture. Many women suffering from a chronic illness are apt to show this type of change and there is no specific indication of a lack of FSH.

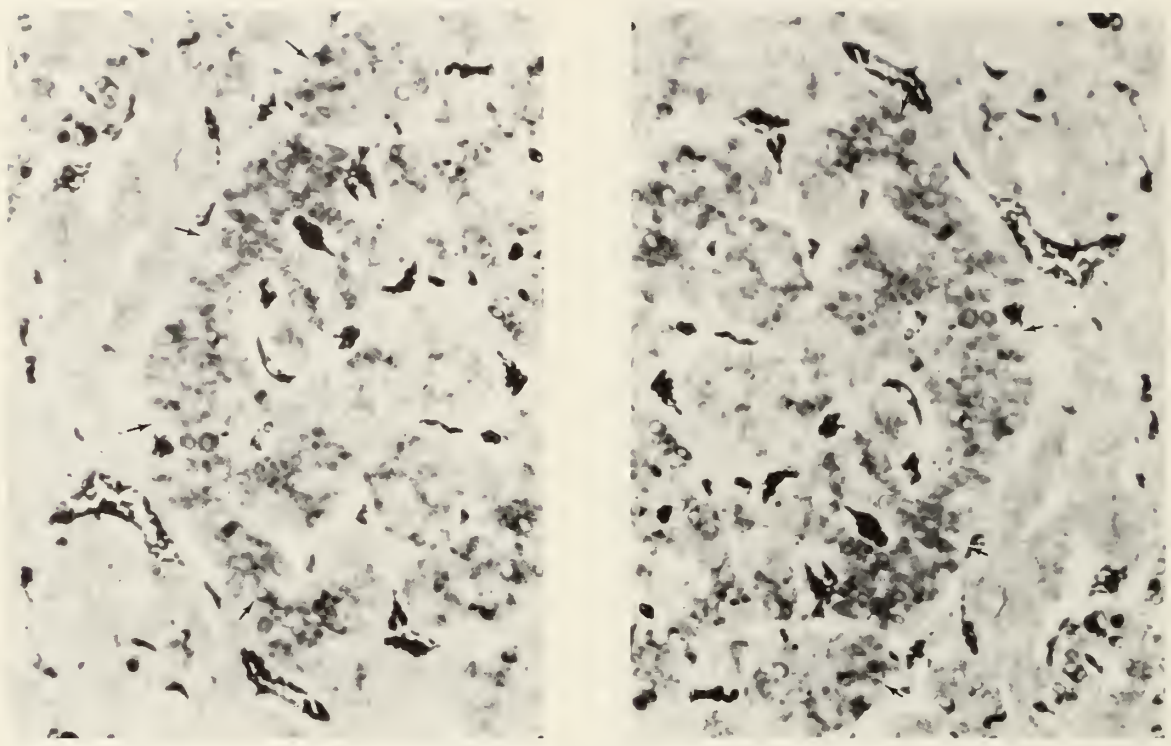


Figure 5. Portions of microadenoma-like area of ACTH secreting cells (arrows), moderately immunostained with immunoglobulin bridge technique employing ACTH antisera x 100.

Some of the cells in the adrenal infiltrate have a plasmacytoid appearance with a prominent cytoplasmic component which suggests these cells may have been producing globulins. It would have been nice if we had some specific immunopathologic studies.

Mr. Phifer: At necropsy the patient's pituitary gland was grossly enlarged and weighed one gram. Microscopic examination revealed hyperplasia and hypertrophy of TSH (thyrotrophic stimulating hormone) cells throughout the gland as well as a small microadenoma of TSH cells. ACTH (adrenocorticotrophic hormone) cells actually appeared decreased in number. Most were chromophobic, in contrast to the relatively intense periodic acid Schiff reactivity normally seen in ACTH cells. Two microadenoma-like areas of ACTH cells were present. These changes indicate that the pituitary was making heroic efforts to overcome the adrenal and thyroid deficiencies. ACTH cells and TSH cells were identified with the immunoglobulin-peroxidase bridge technique,[7] which stains brown to black tissue sites to which specific antisera (in this case ACTH or TSH antisera) are bound. (Figures 4, 5)

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President's Page



HAIL AND FAREWELL!

Ben Miller, sojourning in Europe, has asked me to write the President's Page this month and I'm going to take the opportunity to say farewell to a long time public servant who has recently retired, and to greet his successor. Both men are well known to the Medical Profession in the State.

Dr. Arthur B. Rivers has retired after 28 years as Director of the State Department of Public Welfare. During these years the Department has grown by leaps and bounds and with each leap has become more closely involved with the Medical Profession. That we have had our differences is no secret. When the political powers decided that the Department of Public Welfare should administer Title XIX of the Medicaid Program in South Carolina there was an abrupt confrontation for we doctors have never relished a third party between us and our patients. That we are still not happy should be a surprise to nobody, but the two groups—Doctors and Welfare—are trying to make the program effective and fiscally sound. A great deal of the credit goes to Dr. Rivers for this. Dr. Rivers has won many honors, state, regional, and national while Director of Welfare. He has reflected great credit upon himself and our state and we wish for him a happy, healthy retirement and express our appreciation to him for an outstanding job over the many years.

Dr. Richard A. Ellis succeeded to the Directorship of the State Department of Public Welfare on July 1, 1970. He had been serving as Deputy Director since April 1, 1970. He is no stranger to the Medical Profession, having served as Chairman of the Board of Public Welfare from 1966 through 1969. He retired from the Baptist Ministry after 33 years, 12 of them as Pastor of First Baptist Church in Columbia. An honorary degree of Doctor of Divinity was conferred upon him by Furman University in 1953. We wish Dr. Ellis all success in his new endeavor and while we will not promise to abstain from criticism, we do hope our work together will be harmonious and any criticism we have will be constructive.

John P. Booker, M. D.

THE LEGACY

Robert E. Quinn, M.D.

I'll have, as heritage of my heirs,
A child's warm weight upon the stairs,
The circling touch as arms engage,
Laid up in trust for my old age.

Editorials

Health Care Services

"Delivery of Health Care Services" seems to be a current popular focal point of attack by various groups. Whatever may be felt as being objectionable is defined by the individual groups and is rather variable and related to the cost, availability and quality, as well as to other aspects of medical care. Underlying these objections are assumptions that the present system is in some way deficient and that physicians are somehow responsible for existing inadequacies.

Other assumptions generally are made that include concepts that some "ideal" method or system does exist, is attainable and that some group can achieve this better than the present organized medical group.

When such assumptions are made, emotional considerations should be set aside and the real issues should be examined to determine whether or not they are legitimate or merely the "scape-goat" for concealed motives. Such underlying, real motives, for example, might include attempts by non-physician groups to achieve more status or control in health care fields, or by some primarily for the purpose of political gain.

If invalid assumptions are accepted as fact, the problem becomes as difficult to deal with as it does when one accepts the invalid premises of a delusion and then attempts to disprove it logically. In other words, at this point it becomes an argument which cannot be won.

It becomes clear that physicians are the logical ones to determine inadequacies of our system as well as the practical and workable solutions for existing problems. Not only must this be done but also constructive proposals should be clearly defined and presented in a positive manner to the public. A reactionary approach only to accusations is a defensive posture and in most games the assumption of only a defensive posture creates more losses than wins. Distasteful as it may seem to physicians to go to the public arena, few sacred cows are left in these times and the doctrine of "the public be damned" certainly no longer exists if one offers a service or commodity.

It may well be true that a distinction should be made between medical care offered by physicians with what is called the whole area of health care services. The latter area seems to include many complex social and economic problems such as poverty, malnutrition, etc., for which the medical profession need not accept the blame: additionally, the contributions which the medical profession can make to solving problems of this nature are probably rather limited.

It seems essential, therefore, to demonstrate in an honest, conscientious manner to the public what we can and do offer, and what we feel others cannot offer relative to our profession. The necessity that this be presented in an effective manner becomes clear when one realizes the public as the consumer will have the ultimate choice of electing the type of health-care system it desires. Hopefully, what is chosen will not be selected on what the majority of physicians feel are the basis of invalid assumptions.

Public Relations

The following is excerpted from a speech by Thomas R. Waring, Editor, *Charleston News & Courier*, presented at the Annual Dinner for Chief Residents in Surgery, June 29, 1970.

"Coming back to doctors—and some of my best friends are doctors—I would like to leave with you my own prescription for improving public relations of the profession. I shall confine the prescription at this point to two doses—one relating to the profession as a whole, the other to the individual practitioner.

"We are hearing often about the scarcity of doctors, especially the scarcity of general practitioners to treat the ordinary aches and pains. It's up to the medical profession, in my opinion, to solve this problem of manpower.

The actions of the official Tincture and Extract of Belladonna result chiefly from their Atropine content . . . conclude Goodman and Gilman

THE PHARMACOLOGICAL BASIS OF THERAPEUTICS
3rd Edition, page 522



ANTROCOL®

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Contraindicated in glaucoma. Use cautiously in prostatic hypertrophy. Side-effects of toxic dose of atropine: flushing, dryness of mouth, cycloplegia, tachycardia and urinary retention.

DOSAGE: One tablet or capsule after each meal to correct emotional stress and normalize gastric secretions. In treating peptic ulcer, doses at regular intervals up to eight (8) tablets or capsules per day to provide the proper gastric titer for healing. After ulcer has healed, one tablet or capsule after each meal to maintain a titer unfavorable to recurrence.

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Efudex®

(fluorouracil) cream/solution

for the treatment of solar/actinic keratoses... a topical alternative to conventional therapy

Fluorouracil—the Roche contribution

In 1962, Roche Laboratories introduced Fluorouracil Roche® (5-fluorouracil). Early clinical work with this drug suggested that it possessed a selective cytotoxic activity when applied topically to certain kinds of lesions. Based on this work and years of clinical trials, a standardized form of topical fluorouracil can now be recommended for treatment of multiple solar or actinic keratoses.

Efudex®(fluorouracil)—a new alternative to conventional therapy

Efudex presents the physician with a topical alternative to surgery in the treatment of solar or actinic keratoses. It is effective, comparatively inexpensive and especially well-suited for treatment of multiple lesions. Important, too, is the highly desirable cosmetic result. Clinical experience demonstrates that treatment with Efudex results in an extremely low incidence of scarring.*

Highly effective on first and later applications

In clinical trials, depending on the dosage form and strength used, complete involution occurred in 77 to 88 per cent of lesions following treatment. The rate of recurrence was low, ranging from 1.7 to 5.6 per cent up to a year after completion of therapy. When lesions did recur or new ones appeared, repeated courses of Efudex therapy proved effective.*

1/22/68—Treatment with 5% 5-FU cream commences. Patient K.L. showing widespread but mild solar keratoses (also known as actinic keratoses).



/2/68—After 11 days of treatment. rythema is seen at site of keratoses. In ddition, numerous lesions not apparent rior to therapy have become manifest y sharply defined reactions. Intervening kin, also treated, shows no response to ierapy.

/19/69—One year after cessation of ierapy. Skin appears clear with no evi- ence of scarring. Examination reveals ck of recurrence or the formation of ew lesions.



Predictable sequence of therapeutic response

Two to four weeks constitutes a typical course of Efudex therapy. The response is usually characteristic and predictable. After three or four days of treatment, erythema begins to appear in the area of the keratoses. This is followed by an intense inflammatory response, scaling and occasionally moderate tenderness or pain. The height of the inflammatory reaction generally occurs two weeks after the start of therapy, and then begins to subside as treatment is stopped. Within two weeks of discontinuing medication, the inflammation is usually gone. A mild erythema may remain for two to three months before gradually receding.

Selective—with a high degree of safety

Despite the temporary unsightliness and discomfort of the inflammatory episode, Efudex is, in general, more readily tolerated than surgery. Clinical work shows the intense inflammatory response to be limited to the area of the lesion. Normal skin is not similarly affected. Another measure of Efudex safety: systemic absorption of topical fluorouracil was insignificant, indicating a low risk of systemic toxicity.*

Two strengths—two convenient dosage forms

Efudex is available as a 2% or 5% solution or as a 5% cream. It is applied twice daily by the patient with a nonmetal applicator or suitable glove.

Before prescribing Efudex, however, there are two important considerations. First, please consult the complete prescribing information for precautions, warnings and adverse reactions. Second, advise the patient that treated lesions should respond with the characteristic but transient inflammation. A positive sign that Efudex is working for them.

*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.

2% and 5% Solutions; 5% Cream Applied twice daily—resolves solar or actinic keratoses.

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For full prescribing information, please see the following page.

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Description: Efudex solutions and cream are topical preparations containing the fluorinated pyrimidine 5-fluorouracil, an antineoplastic antimetabolite.

Efudex Solution consists of 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris-(hydroxymethyl) aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Efudex Cream contains 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

Actions: There is evidence that the metabolism of fluorouracil in the anabolic pathway blocks the methylation reaction of deoxyuridylic acid to thymidylic acid. In this fashion fluorouracil interferes with the synthesis of deoxyribonucleic acid (DNA) and to a lesser extent inhibits the formation of ribonucleic acid (RNA). Since DNA and RNA are essential for cell division and growth, the effect of fluorouracil may be to create a thymine deficiency which provokes unbalanced growth and death of the cell. The effects of DNA and RNA deprivation are most marked on those cells which grow more rapidly and which take up fluorouracil at a more rapid pace. The catabolic metabolism of fluorouracil results in degradative products (*e.g.*, CO_2, urea, α-fluoro-β-alanine) which are inactive.

Studies in man with topical application of ^{14}C-labeled Efudex demonstrated insignificant absorption as measured by ^{14}C content of plasma, urine and respiratory CO_2.

Indications: Efudex is recommended for the topical treatment of multiple actinic or solar keratoses.

Contraindications: Efudex is contraindicated in patients with known hypersensitivity to any of its components.

Warnings: If an occlusive dressing is used, there may be an increase in the incidence of inflammatory reactions in the adjacent normal skin.

Prolonged exposure to ultraviolet rays should be avoided while under treatment with Efudex because the intensity of the reaction may be increased.

Usage in Pregnancy: Safety for use in pregnancy has not been established.

Precautions: If Efudex is applied with the fingers, the hands should be washed immediately afterward. Efudex should be applied with care near the eyes, nose and mouth. To rule out the presence of a frank neoplasm, a biopsy should be made of those areas failing to respond to treatment or recurring after treatment.

Adverse Reactions: The most frequently encountered local reactions were pain, pruritus, hyperpigmentation and burning at the site of application. Other local reactions included dermatitis, scarring, soreness and tenderness.

Also reported were insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity and lacrimation.

Laboratory abnormalities reported were leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Efudex should be applied twice daily with a nonmetal applicator or suitable glove in an amount of the solution or cream sufficient to cover the lesion. When Efudex is applied to a lesion, a response occurs with the following sequence: erythema, usually followed by vesiculation, erosion, ulceration, necrosis and epithelization. The lower frequency and intensity of activity in adjacent normal skin indicate a selective cytotoxic property. Medication should be continued until the inflammatory reaction reaches the erosion, necrosis and ulceration stage, at which time use of the drug should be terminated. The usual duration of therapy is from 2 to 4 weeks. Complete healing of the lesion may not be evident for 1 to 2 months following cessation of Efudex therapy.

How Supplied: Efudex Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Efudex Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

Clinical Studies: The effectiveness of the three preparations as determined by complete involution of solar keratoses was: 2% Solution, 77% of 282 lesions; 5% Solution, 88% of 202 lesions; and 5% Cream, 85% of 189 lesions. In those lesions where complete involution followed treatment, the rate of possible recurrences observed clinically at periods up to 12 months or more was: 2% Solution, 4.6% of 218 lesions; 5% Solution, 1.7% of 177 lesions; and 5% Cream, 5.6% of 160 lesions. Because of the toxic potential of fluorouracil, some physicians preferred to use the 2% solution when large areas were to be treated. Approximately 30% of the lesions required treatment for two weeks or less; approximately 78% required four weeks or less for adequate treatment.

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Development of para-medical people, somewhat like the medics in the military services, is one promising method. If something is not done, the people who can't afford high standards of medical care will rely on low standards—quacks and witch-doctors. At the same time the demand for socialized medicine with all its shortcomings will grow.

"As to the individual practitioner, he can improve his own image—and in the aggregate the profession's—by taking an active role in the community. I know you're busy. I know you are entitled to some recreation, and some family life of your own. Just the same, a doctor cannot confine his time altogether to office and home—or yacht, as the case may be. He has an obligation to church, city, state and country—to society as a whole.

"I'm not talking about seeking public office. I am talking about mingling with the public, and using his influence in as many places as possible. A lot of time, effort and money—some his own and some belonging to others—have gone into the doctor's training. In a sense he needs to pay a debt to society over and beyond his practice of the healing arts. Otherwise, society may get so sick that not even surgery or bed rest or tender loving care will be enough to cure it. Doctors are citizens. You are an elite group. I urge you to be good citizens."

Peer Review

The following was noted in the August 28 issue of *Hospital Week*, the publication of the American Hospital Association.

"Sen. Wallace F. Bennett (R-Utah) has introduced as an amendment to H.R. 17550, the Social Security Amendments, legislation expanding upon the American Medical Association's Peer Review Organization proposal. The Senator's bill would establish on an area basis Professional Standards Review Organizations composed of local physicians authorized to review and approve all medical, hospital, and nursing home care provided under the Medicare, Medicaid, and Maternal and Child Health programs. The PSROs would be authorized to approve in advance all elective admissions to hospitals and nursing homes under the programs. No federal payments would be made for admissions made without approval. Review also would be made of emergency stays subsequent to admissions. PSROs would be required to make their determinations on the basis of regional norms issued by an 11-member National Professional Review Council that would be appointed by the Secretary of Health, Education, and Welfare. The AMA's proposal calls for the HEW Secretary to contract with a state medical society or an organization designated by it to establish and operate a Peer Review Organization to review the need for and quality of medical services furnished under federally supported programs and the appropriateness of charges made for such services."

This raises some questions and I would wonder if these are the reasons for Peer Review Organization being developed, if it is workable, or for that matter, desirable.

SOUTH CAROLINA MEDICAL ASSOCIATION

MINUTES OF COUNCIL

Columbia, South Carolina — Wednesday, July 1, 1970

Council of the South Carolina Medical Association met at the Blue Cross-Blue Shield Headquarters, at 2:30 p.m. on July 1, 1970.

Present: Dr. Ben N. Miller, President, Dr. Harold P. Hope, Chairman; Dr. Joseph D. Thomas, Vice President; Dr. D. Strother Pope, Secretary; Dr. J. I. Waring, Editor of SCMA Journal; Mr. M. L. Meadors, Executive Secretary; Councilors Dr. A. Richard Johnston, Dr. Waitus O. Tanner, Dr. William A. Klauber, Dr. Donald G. Kilgore, Jr., Dr. John D. Gilland, Dr. Michael Holmes, Dr. J. Harvey Atwill, and Dr. Halsted M. Stone.

Also, Dr. J. Hal Jameson, Dr. Thomas Parker, Dr. John C. Hawk, Jr., Dr. C. Tucker Weston and Dr. Buckland Thomas.

Guests: Bruce Hughes, medical student from Tulane, and Patricia Peeples, medical student from the Medical University of South Carolina.

Dr. John D. Gilland gave the invocation.

The following committee appointments were made:

Committee on Scientific Program: Dr. A. H. Hursey, Hartsville, and Dr. Walter Roberts, Columbia, will succeed Dr. James S. Garner, Mullins, and Dr. Dana C. Mitchell, Jr., Columbia, respectively.

Committee on Legislative Activities: Dr. Leonard W. Douglas, Belton, will succeed Dr. Donald G. Kilgore, Greenville. Dr. Hugh H. Wells, Seneca, will be asked to serve as Chairman, and Dr. Kilgore will still serve in an advisory capacity. Dr. D. Strother Pope, Columbia, will succeed himself.

Committee on Cooperative Activities: Dr. S. Hunter Rentz, Columbia, will succeed Dr. Robert S. Solomon, Moncks Corner, S. C. Dr. William C. Cantey, Columbia, will succeed himself.

Committee on Medical Education: Dr. William A. Klauber, Greenwood, and Dr. James P. Galloway, Columbia, will succeed themselves.

Committee on Medical Services: Dr. Loren F. Parmley, Jr., Spartanburg, will succeed Dr. Sol Neidich, Beaufort. Dr. Edmund R. Taylor, Columbia, will succeed himself and will be asked to serve as Chairman.

Sub-committee on Emergency Medical Care: Dr. Charles D. Riddle, Jr., Greenville, Dr. Max S. Rittenbury, Charleston; Dr. Edward C. O'Bryan, Jr., Florence; and Dr. Emmett M. Lunceford, Jr., Columbia. **Sub-committee on Insurance Program**: Dr. Joseph P. Cain, Jr., Mullins.

Committee on Mental Health: Dr. James B. Galloway, Columbia, and Dr. R. R. Mellette, Jr., Charleston, will succeed themselves.

Committee on Public Relations: Dr. Joseph I. Waring, Charleston, will succeed himself. Dr. Buckland Thomas, Columbia, will succeed Dr. Robert L. Solomon, Charleston.

Committee on Industrial Medicine: Dr. H. Leon Poole, Spartanburg, and Dr. Allen R. Slone, Hartsville, will succeed themselves.

Committee on Maternal Health: Dr. Heyward Hudson, Greenville, will succeed Dr. R. H. Hand, Anderson. Dr. Philip P. Claytor, Barnwell, and Dr. Richard Y. Westcoat, Lancaster, will succeed Dr. William W. King, Jr., Newberry and Dr. Samuel B. Moyle, Walhalla.

Committee on Infant and Child Health: Dr. David C. McLean, Florence, will succeed Dr. Marion Caughman, Orangeburg. Dr. Stanton L. Collins, Conway, will succeed Dr. Samuel P. Fleming, Spartanburg. (Should Dr. Casper E. Wiggins, Greenwood, resign from the committee, Dr. Robert C. Brownlee, Jr., Greenville, will succeed him.)

Memorial Committee: Dr. Buford Chappell, Columbia, will succeed Dr. J. Richard Sosnowski, Charleston. Dr. Samuel O. Cantey, Jr., Marion, will succeed himself and will be requested to serve as temporary chairman.

Committee on Historical Medicine: Dr. Leon Banov, Jr., Charleston, will succeed himself. Dr. Chapman Milling, Columbia, will succeed Dr. Richard Allison, Jr., Columbia.

Committee on Constitution and By-Laws: Dr. William H. Hunter, Clemson, and Dr. J. Gavin Appleby, St. George, will succeed themselves.

Sub-committee Advisory Committee to Woman's Auxiliary: Dr. Thomas Parker, Greenville, Dr. William P. Turner, Greenwood, Dr. David D. Moise, Sumter, Dr. Ben N. Miller, Columbia, Ex Officio and Mr. M. L. Meadors, Florence, Ex Officio.

Committee to serve with Pharmaceutical Members on Category of Illnesses & Drugs: Dr. Robert Brownlee, Greenville, will succeed himself; Dr. Berryman E. (Ted) Coggeshall, Cheraw, and Dr. Ira B. Horton, Orangeburg, will succeed themselves. Dr. Lawrence Jowers, Columbia, will succeed Dr. William W. Vallotton, Charleston. Dr. John D. Gilland, Conway, will succeed himself.

State Board of Medical Examiners: Dr. Charles N. Wyatt, Greenville, and Dr. William O. Whetsell, Orangeburg, will succeed themselves.

In addition to the appointments to the standing committees listed above, the following nominations to other committees were also approved:

Medical Advisory Committee to S. C. Dept. of Vocational Rehabilitation: (To succeed Dr. Benton M. Montgomery) Dr. Richard M. Christian, Greenwood, S. C.

Tuberculosis Control Advisory Committee: Dr. E. Alex Heise, Sumter, to succeed himself.

Dr. Miller stated that Dr. Walter Bonner had requested to be relieved of the chairmanship of the Committee on Scientific Program, having served two years. Dr. Bonner had suggested either Dr. M. Gordon Howle of Greenville or Dr. Joe Flowers of Walterboro as Chairman, and it was directed that this information be referred to the committee for its action.

Dr. D. Strother Pope moved the approval of the Peer Review Committee appointed by their respective Councilors. Dr. Tanner seconded. Following is the committee:

District	Committee Member
1	Dr. George C. Brown, Jr., Walterboro, S. C.
2	Dr. Paul T. Hopkins, Columbia, S. C.
3	Dr. E. Mims Mobley, Greenwood, S. C.
4	Dr. Henry G. Howe, Jr., Greenville, S. C.—Vice Chairman
5	Dr. Allen P. Jeter, Winnsboro, S. C.
6	Dr. Edward L. Proctor, Conway, S. C.
7	Dr. Wallis D. Cone, Sumter, S. C.
8	Dr. James H. Gressette, Orangeburg, S. C.
9	Dr. Michael F. Patton, Spartanburg, S. C.—Chairman

Dr. Harold P. Hope moved that Dr. Robert H. Burley, Clemson, be appointed to the Peer Review Committee as a member-at-large (10th District). Dr. Stone seconded.

Dr. Atwill gave a most comprehensive report on the organizational meeting of the Peer Review Committee. He was very favorably impressed with the attendance. The next meeting of the Committee is scheduled for July 24, 1970.

Mr. M. L. Meadors advised that a physician's individual insurance would cover any action taken either independently or as a member of a committee. However, SCMA should be insured as an organization. Dr. Kilgore moved that Mr. Meadors obtain $300,000 insurance coverage for SCMA as soon as possible. Dr. Tanner seconded.

Council approved the committee appointed by Dr. Hope, Chairman of Council, to negotiate a "Fee for Service" policy with the Blue Shield Corporation, which committee was selected by their respective specialty groups and is as follows:

OBG Soc.	Dr. H. W. Fouche, Columbia, S. C.
Surgical Soc.	Dr. Daniel W. Davis, Jr., Columbia, S. C.
Opthalmology & Otolaryngology Soc.	Dr. Joseph B. Workman, Jr., Columbia, S. C.
Psychiatry	Dr. James B. Galloway, Columbia, S. C.
Radiology	Dr. Stephen E. Puckette, Jr., Summerville, S. C.
Internal Medicine	Dr. Charles R. Holmes, Columbia, S. C.
AAGP	Dr. Halsted Stone, Chester, S. C.
Pediatrics	Dr. John Rheney, Jr., Orangeburg, S. C.
Orthopedics	Dr. John Keith, Spartanburg, S. C.
Urology	Dr. Jack Evans, Spartanburg, S. C.
Pathology	Dr. C. H. Magruder, Greenwood, S. C.
Anesthesiologist	To be appointed by their Society. (Dr. Hawk moved this and Dr. Pope seconded.)

After much pro and con discussion, Dr. Atwill moved that the next SCMA Convention be held in the Convention Center at Myrtle Beach and that the Ocean Forest Hotel be the Convention Hotel for social functions. Dr. Johnston seconded.

Dr. Miller congratulated Mr. Meadors on behalf of Council for having been elected President of the National Association of Medical Executive Secretaries.

Dr. Jameson introduced Mr. Sandow of Blue Cross-Blue Shield who spoke to Council regarding his opinion of the imminence of socialized medicine in the not too distant future and asked the advice of

Council as to what the Blue Shield Board should do to meet the rapid changes taking place. HMO legislation is still in the formative stage but when such legislation is passed, Mr. Sandow urged SCMA to take a good look at it to see what can be done.

Dr. Miller moved that Mr. Meadors and Dr. Hope look into the matter and bring back to Council their thoughts on how these problems can be dealt with. Dr. Atwill seconded.

Mr. Sandow offered office space in the Blue Cross-Blue Shield building for the use of SCMA as its Columbia headquarters and also the use of a WATT line, said space to be immediately available.

Dr. Stone moved that the following Resolution of the S. C. Chapter of the American Academy of General Practice be endorsed by SCMA and that the secretary notify the Department of Public Welfare of such endorsement. Dr. Tanner seconded.

"WHEREAS, The members of the SCA of GP are interested in providing medical care to Medicaid recipients of this State.

WHEREAS, It is our desire to see the Medicaid program operate in such a manner that necessary medical care to all recipients can be provided within the means of the State.

WHEREAS, We realize, that with the deficiency that occurred for the fiscal year 1969-1970 in the operation of Medicaid, curbs on the operation are a necessity.

WHEREAS, We endorse the majority of the provisions to curb the expenditures as published in The State, Thursday, June 18, 1970.

WHEREAS, The successful operation of this program depends on the full cooperation and understanding between the practicing physicians and the Department of Public Welfare.

WHEREAS, The preventing of full freedom of choice of physicians will be unnecessary interference with the care of the patient and may ultimately breach this understanding and trust.

WHEREAS, We feel that if 'the recipient must choose each month a physician for the month,' there is interference. This is not freedom of choice.

WHEREAS, This concept would work a hardship on patients whose regular physician is away from his practice for part of a month and would prevent adequate coverage by another 'on call' physician.

WHEREAS, this procedure would bring about unnecessary correspondence between physicians and the Department of Public Welfare.

WHEREAS, the same control as to 'Doctor Shopping' may be brought about by a four part perforated and numbered voucher. (This voucher to be attached to claim when request for payment is made by the physician.)

WHEREAS, This, or like, procedure would permit freedom of choice and at the same time authorize treatment and limit the unnecessary utilization by patient and physician.

THEREFORE, BE IT RESOLVED, That the Academy oppose the concept of 'doctor for a month' and request substitution in its place a voucher system .

RESOLVED FURTHER, That the Academy will encourage its members to resist this unnecessary interference into the lives of Medicaid recipients."

The Mediation Committee wants a directive from Council regarding insurance coverage of its members. Mr. Meadors will notify them that their individual policies will be sufficient coverage and that SCMA is obtaining coverage.

Mr. Meadors reported that he had interviewed an applicant for the job as his assistant with whom he is favorably impressed. However, he does not wish to make a final decision until several references have been checked.

Dr. Kilgore moved that a committee composed of Dr. Hope, Dr. Miller, Mr. Meadors and Dr. Pope be empowered to hire the assistant to Mr. Meadors and to procure office space in Columbia and that this be accomplished within the next 30 days if possible. Dr. Jameson seconded.

After much discussion about the office space to be procured in Columbia—offers from the Columbia Medical Society and the Blue Cross- Blue Shield—Dr. Parker moved that we thank Mr. Sandow for his

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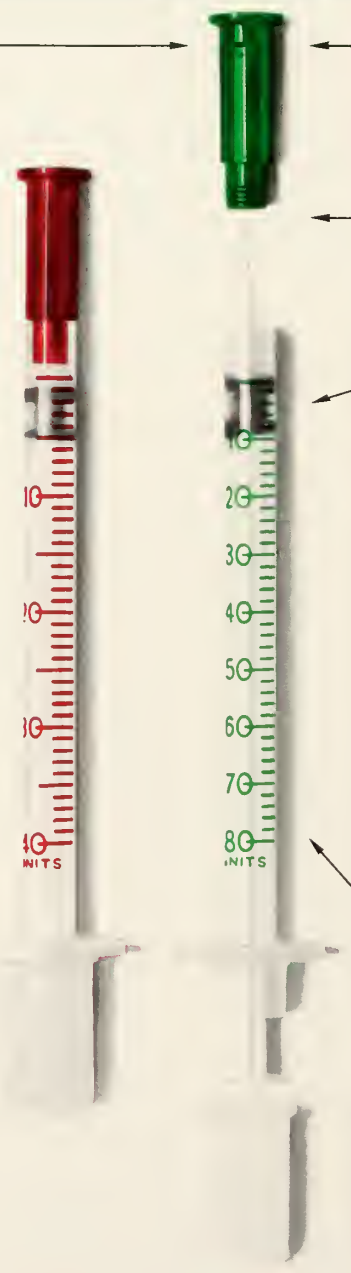
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offer and instruct our committee to go ahead and procure office space in downtown Columbia. Dr. Tanner seconded.

Dr. Atwill moved that the committee independently select its own office space. Dr. Jameson seconded. Dr. Hawk moved that Council reconsider Dr. Atwill's motion and that it be amended by stating that if suitable space is not available for an amount that is considered reasonable by this committee that this will not preclude the acceptance of the offer of the Columbia Medical Society. Dr. Kilgore seconded. Motion carried by a vote of nine for and five against.

Dr. Miller moved that a statewide committee be appointed to work with the Columbia Medical Society in exploring the feasibility and location of a permanent home for SCMA. Dr. Kilgore seconded. This will be done at a later date.

Dr. Waring asked Council its pleasure about the third volume of the History of Medicine which is about ready for the printers. It is estimated that SCMA will have to underwrite the publication for about $1,500. Dr. Klauber seconded.

Dr. Parker and Dr. Hawk reported on their attendance at the AMA Convention and asked for clarification of their instructions as delegates. Dr. Atwill moved approbation for the actions of all delegates to AMA and council's wholehearted support. Dr. Kilgore seconded.

Dr. Tucker Weston reported on the misbehavior of spectators at one of the meetings he attended at AMA convention.

With one minor correction, Dr. Kilgore moved the approval of the minutes of the May meetings at Myrtle Beach. Dr. Johnston seconded.

Meeting adjourned at 6:50 p.m.

D. STROTHER POPE, M.D.
Secretary

Richard G. Pugh



The South Carolina Medical Association has announced the appointment of Richard G. Pugh to the position of Assistant to the Executive Secretary.

Pugh, a native of Charleston and a 1962 graduate of the University of South Carolina, has had seven years experience in the paramedical field. Upon graduation, he was assigned to the Piedmont area of South Carolina as field representative for the Venereal Disease Control Program of the U. S. Public Health Service and the South Carolina State Board of Health. Subsequent transfers were to the Pittsburgh, Pennsylvania area and to Charleston, South Carolina.

In 1967, he accepted the position of Executive Director of the Coastal Tuberculosis and Respiratory Disease Association serving Beaufort, Berkeley, Charleston, Colleton, Dorchester and Jasper Counties. For the past year, he has been in private business in Charleston.

Mr. Pugh will head up the Columbia Office of the State Medical Association which has its headquarters in Florence.



Dr. James C. Owens is now associated with **Drs. A. Izard Josey and Robert K. Moxon** in the practice of internal medicine at 2757 Laurel Street, Columbia. **Drs. Hunter W. May**, a pathologist at Self Memorial Hospital in Greenwood, and **William W. Edwards** of Greenville have been appointed to the Medical Advisory Board of the South Carolina Industrial Commission. **Dr. David R. Hobbs** has been appointed as a physician on the medical service at the Veterans Administration Hospital in Columbia. He received his M.D. from West Virginia University and completed his internship at Walter Reed Hospital.

Drs. R. Randolph Bradham, Edward F. Parker, Burness A. Barrington, Jr., and **Charles M. Webb** have been awarded a grant for a three-year study of heart disease. **Dr. John P. Gingrey**, graduate of the Medical College of Georgia, has joined **Dr. James Suhrer** in practice at 148 Waterloo Street, Aiken. **Dr. A. R. Johnston** has moved to his new office at 401 Ridge Street in St. George.

Dr. Harry W. Floyd has been appointed to the Medical Staff of Williamsburg County Memorial Hospital. **Dr. John C. Macdonnell, Jr.** has joined **Dr. Thomas Collings** in the operation of the Pediatric Clinic at Greenville and Fant Streets in Anderson. **Dr. Frank N. Boensch, Jr.** is now associated with **Dr. John S. Floyd, III** in the practice of gynecology and obstetrics at 65 Gadsden Street in Charleston.

New Members of the
S. C. Medical Association

Dr. Julian C. Adams
2005 Hampton St.
Columbia, S. C. 29204
Dr. Maxcy C. Boineau
Greenville Medical Center
Greenville, S. C. 29601
Dr. Frederick A. Carpenter
80 Barre St.
Charleston, S. C. 29401
Dr. Allen H. Johnson
80 Barre St.
Charleston, S. C. 29401
Dr. Norman F. Kinsey
Hartsville, S. C. 29550
Dr. James O. Morphis
Hartsville, S. C. 29550
Dr. Archie Mayo Rabon
610 Pendleton St.
Greenville, S. C. 29601
Dr. Robert Wilson, Jr.
91 Rutledge Ave.
Charleston, S. C. 29401

The Journal of the South Carolina Medical Association

50 YEARS AGO

October 1920

At the meeting of the Fourth District Medical Society at Seneca. Dr. J. Adams Hayne State Health Officer, made a plea for a system of county hospitals to be supported by taxation. One special interest was in the reduction of maternal and infant mortality. A paper on goiter by Dr. Samuel Orr Black appeared in this October issue. Dr. Carl West was in practice and acted as health officer in Camden.

". . .POLICIES BY MANY INSURERS, ARE STEADILY IF NOT RAPIDLY RENDERING THE ACCIDENT AND HEALTH BUSINESS A STENCH IN THE NOSTRILS OF A GROWING NUMBER OF CITIZENS." . . . . . .

Sixty-First Annual Report
Department of Insurance
of South Carolina

The Chief Insurance Commissioner's report refers to practices by health insurers that are "watering down health contracts to a point where they become virtually useless."

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Blue Cross of South Carolina and Blue Shield of South Carolina are the leaders in improving health contracts by easing the odious restrictions in health insurance. Among all health insurers, Blue Cross and Blue Shield are uniquely apart from the commercial insurers.

Blue Cross is only technically an insurance company. So is Blue Shield.

The first is a fully prepaid hospital service corporation. The second is a maximum return, prepaid medical service corporation.

Blue Cross and Blue Shield are taxed and regulated as insurance companies. But the real differences between prepaid service plans and commercial health insurance companies are still there.

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On the other hand, among 223 commercial insurance companies selling accident and health insurance in South Carolina last year, fewer than one-third of them did as much business in accident and health as they did in life insurance. Only six commercial companies sold accident and health insurance exclusively, and they took in premiums amounting to $951,468 more than they paid out in claims.*

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OF SOUTH CAROLINA

*Sixty-second annual report of Department of Insurance of South Carolina.

(This begins a series of public service announcements to help everyone choose knowledgeably the type of contract and carrier that gets the best health care for the most people at least cost.)

Menrium® treats the menopausal symptoms that bother him most.



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His wife has a lot of different
nopausal symptoms, but only a few
lly irritate *him*. Her hot flashes, her
tigo, her palpitations—that's *her*
blem. What really bothers him is
nervousness, her irritability and
excessive anxiety, often expressed
endless "book-shuffling, chain-
oking, reading-lamp" insomnia!
Menrium takes care of hot flashes,
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nerefore relieves more symptoms
n either component separately.
kes care of the vasomotor
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ptoms. This means the symptoms
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ptoms that irritate him most.
o, to help them both get through
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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of manifestations generally associated with the menopausal syndrome—anxiety and tension, vasomotor complaints and hormonal deficiency states.

Contraindications: Women with cancer of breast or genitalia, except inoperable cases, and those with known hypersensitivity to chlordiazepoxide and/or esterified estrogens.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Exclude other possible causes of menopausal syndrome manifestations, such as pregnancy. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) similar to those seen with barbiturates have been reported following discontinuance of chlordiazepoxide HCl. Potential benefits of use in pregnancy, lactation or women of childbearing age should be weighed against possible hazards to mother and child. Clinical data inadequate on safety in pregnancy.

Precautions: In elderly and debilitated patients, limit dosage to smallest effective amount of chlordiazepoxide (initially 10 mg or less per day) to preclude ataxia or oversedation; increase gradually as needed and tolerated. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects—particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in patients with impaired renal or hepatic function. Paradoxical reactions to chlordiazepoxide (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in the treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation very rarely reported in patients receiving Librium® (chlordiazepoxide) and oral anticoagulants.

Adverse Reactions: Untoward effects seen with either compound alone may occur with Menrium. With chlordiazepoxide, drowsiness, ataxia and confusion reported in some patients, particularly in the elderly and debilitated; while usually avoided by proper dosage adjustment, these are occasionally observed at lower dosage ranges. Also reported have been a few instances of syncope; isolated occurrences of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido, and occasional reports of blood dyscrasias, including agranulocytosis, jaundice and hepatic dysfunction. Periodic blood counts and liver function tests advisable during protracted treatment. Changes in EEG patterns (low-voltage fast activity) observed during and after chlordiazepoxide treatment.

With estrogens, headache, nausea and vomiting, anorexia, gastrointestinal discomfort, dysuria and urinary frequency, jitteriness, breast engorgement, formation of breast cysts, skin rashes and pruritus occasionally seen. Administration may also be associated with uterine bleeding and/or followed by withdrawal bleeding.

Usual Dosage: One tablet t.i.d. for 21 days, followed by one-week rest periods.

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10 mg chlordiazepoxide	10-4	0.4 mg water-soluble esterified estrogens

Medical University of South Carolina



Dr. Harrison L. Peeples, a prominent Estill physician, has been elected Chairman of the Board of Trustees of the Medical University of South Carolina. Dr. Peeples is shown here being congratulated by his predecessor, J. Edwin Schachete, Jr., of Charleston. Dr. William C. Draffin of Columbia has succeeded Dr. Peeples as vice-chairman.

Five members of the Department of Pharmacology presented papers at the fall meeting of the American Society of Pharmacology and Experimental Therapeutics at Stanford University in California. Faculty members making presentations were **Drs. H. B. Daniell**, and **E. E. Bagwell.** Graduate students on the program were **Hugh Thompson, Phil Taylor**, and **Cliff Hilliard.**

Dr. Martin H. Keeler an expert on drug abuse, has been named professor of psychiatry at the Medical University of South Carolina. For the last year, he has been professor of psychiatry at New York Medical College. For twelve years prior to that he was a member of the faculty at the University of North Carolina School of Medicine.

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358, second year $12,496 and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, P. O. Box 119, Columbia, South Carolina 29202.

EQUAL OPPORTUNITY EMPLOYER

MEETINGS

The National Conference on Cancer of the Colon and Rectum will be held at the Hotel del Coronado, San Diego, California, on January 7-9, 1971. For further information write: Ronald N. Grant, M.D., Vice President for Professional Education, American Cancer Society, 219 East 42nd Street, New York, N. Y. 10017.

"Congenital and Acquired Heart Disease in Infants and Children," a **Pediatric Cardiology Postgraduate Course**, will be presented by the American Academy of Pediatrics and the Department of Pediatrics of the University of Florida College of Medicine, December 9-12, at the Happy Dolphin Inn, St. Petersburg Beach, Florida. Inquiries should be addressed to Dr. Gerald Hughes, Secretary for Educational Affairs, American Academy of Pediatrics, Post Offifce Box 1034, Evanston, Illinois 60204.

The 24th Clinical Convention of the American Medical Association will be held November 29-December 2 in Boston, Massachusetts. Further information may be obtained from: Mr. Frank Chappell, The American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

The 23rd Annual Congress and Teaching Seminar of the International Academy of Proctology will be held in Mexico City, Mexico, February 26-March 5, 1971. Information may be obtained from Dr. Alfred J. Cantor, 147-41 Sanford Avenue, Flushing, New York 11355.

The Congress of County Medical Societies will meet November 6-8 at the Netherland Hilton Hotel in Cincinnati, Ohio.

The 12th National Conference on the Medical Aspects of Sports will be held in Boston, Massachusetts, at the Sheraton-Boston Hotel on November 29 in conjunction with the Clinical Convention of the American Medical Association.

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Associate in Neurology

CHILD PSYCHIATRY

GILBERT SILVERMAN, M. D.
Associate in Child Psychiatry

ADMINISTRATION

ROBERT H. CRYTZER
Administrator

DEATHS

DR. FRANK M. WARDER

Dr. Frank M. Warder, 56, of Anderson, died in the Anderson Hospital on August 27 after a short illness. Dr. Warder graduated from the University of Louisville Medical School in 1939 and served his residency in otolaryngology at the University of Indiana. He had practiced in Anderson since 1946 as a partner with Drs. Gaines, Stanfield, Yarbrough and Gillespie. He was a member of the American College of Surgeons, a member of the Otolaryngologists, a member and past president of the Anderson County Medical Society, and past chief of staff of Anderson Memorial Hospital.

DR. J. A. BOONE

Dr. John Alfred Boone, 64, former professor and chairman of the Department of Medicine at the Medical University of South Carolina died August 26 in a Charleston hospital. Dr. Boone graduated from the Harvard School of Medicine and joined the Medical University in 1937, serving as assistant dean of the college from 1945 to 1950. He also served as the president and chairman of the board of the South Carolina Heart Association. He was a member of the South Carolina, Southern, and American Medical Associations and the American College of Physicians.

DR. J. H. SANDERS

Dr. James Henry Sanders, 71, of Gaffney died on September 7 in his home. Dr. Sanders was a graduate of the Medical University of South Carolina and served his internship at Roper Hospital in Charleston.

DR. C. M. ROBERTS

Dr. Conan Mills Roberts, 44, a Latta physician died on August 24. He was a graduate of Bowman-Gray School of Medicine and a member of the South Carolina Medical Association, the American Medical Association, the Southern Medical Association and the American Academy of General Practice.

DR. H. M. JOHNSON

Dr. Harley M. Johnson, 84, of Cayce died September 4 in his home. Dr. Johnson was a graduate of the University of Maryland and Johns Hopkins Hospital in Baltimore. He had practiced medicine in the Columbia and West Columbia areas for the past 53 years. Dr. Johnson was a member of the South Carolina Medical Association.

DR. L. M. MACE

Dr. Luther M. Mace died in Charleston on August 4. Dr. Mace was a graduate of the Medical University of South Carolina.

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SHOULD A SOLO PROFESSIONAL PRACTITIONER FORM AN ASSOCIATION?

This question has been asked many times by the professional practitioner since the enactment of the "South Carolina Professional Association Act," which was signed into law on March 22, 1962. This act was passed to give the professional the same tax benefits as the businessman who wished to operate his business as a corporation. This right was contested by the Internal Revenue Service until August 8, 1969, when T.I.R. 1019 was released. On March 2, 1970, the I.R.S. issued Rev. Rul. 70-101 stating the rules under which an association or corporation could be formed. Thus ended a battle between the professionals and the I.R.S. which can be traced back four decades.

The following questions and answers are presented for the use of the professional practitioner who may be interested in forming a medical association in South Carolina.

Q. WHAT IS A "PROFESSIONAL ASSOCIATION"?

A. A professional association is an unincorporated association, as distinguished from a partnership, organized under the South Carolina Act, for the purpose of rendering one type of professional service.

Q. WHO MAY FORM A PROFESSIONAL ASSOCIATION?

A. Any one or more persons duly licensed to practice a profession and render professional service under the laws of this state may form a professional association, provided no professional association organized pursuant to the provisions of the act shall render professional service in more than one type of professional service.

Q. WHY WOULD A PROFESSIONAL WISH TO FORM AN ASSOCIATION?

A. The professional would become an employee of the association and, as such, be entitled to corporate type fringe benefits which are now denied to him in his solo or partnership practice.

Q. WHAT ARE SOME OF THESE CORPORATE TYPE FRINGE BENEFITS?

A. Limited liability — the professional employee could not be held liable for the acts of other professional employees. Qualified pension and/or profit sharing retirement plans which allow for greater benefits than can now be obtained as a solo or partner. Free group life insurance coverage up to $50,000. Tax free medical and dental services for the professional and his family. Tax free disability income plans. A tax sheltered investment trust (the professional may invest up to 10 per cent of his salary each year — this fund will grow each year without the burden of yearly taxes on any gains and the principal with gain may be withdrawn when needed). Many other benefits.

Q. HOW IS A PROFESSIONAL ASSOCIATION FORMED?

A. The professional must obtain the services of an attorney to draw the articles of the association and he must file these articles with the proper state authorities. The attorney should be thoroughly familiar with the statute and a background of corporate law should be a requirement. As very few medical practitioners have a corporate business background, the attorney will be able to advise the doctor on the steps needed to make the daily operation of the association like that of a business corporation.

Q. HOW IS A PROFESSIONAL ASSOCIATION GOVERNED?

A. By a Board of Governors elected by the members or shareholders, and represented by officers elected by the Board of Governors. Members of the Board of Governors need not be members or shareholders of the professional association and officers need not be members of the Board of Governors except that the President shall be a member of the Board of Governors.

Q. HOW IS OWNERSHIP SHOWN IN A

PROFESSIONAL ASSOCIATION?

A. By stock certificates or by rights and duties as specified in the articles of association.

Q. MAY OWNERSHIP IN A PROFESSIONAL ASSOCIATION BE SOLD OR TRANSFERRED?

A. Yes, but only to another licensed professional, licensed in the same capacity as that of the association.

Q. MAY A PROFESSIONAL ASSOCIATION ENGAGE IN BUSINESS OTHER THAN THAT OF RENDERING THE SPECIFIC PROFESSIONAL SERVICES FOR WHICH IT IS LICENSED?

A. No, however, it may invest its funds in real estate, mortgages, stocks, bonds, or any other type of investment, and may own real or personal property necessary or appropriate for rendering its professional service.

Q. IS THERE A SET INCOME TAX BRACKET THE PROFESSIONAL PRACTITIONER SHOULD BE IN BEFORE HE CONSIDERS FORMING AN ASSOCIATION?

A. No! This will vary with the individual practitioner. It should be just as important to the practitioner who has just entered the profession to conserve his professional fees as it is for the practitioner who may be well established.

Q. WILL THE FORMATION OF A PROFESSIONAL ASSOCIATION CAUSE THE PROFESSIONAL TO HAVE LESS SPENDABLE INCOME THAN AVAILABLE TO HIM AS A SOLO OR PARTNER?

A. No! As many of the items that the professional has been previously forced to buy with after-tax dollars will be furnished for him by his association as a fringe benefit, he should find that his spendable income will increase.

Q. WILL THE FORMATION OF A PROFESSIONAL ASSOCIATION CHANGE THE WAY A PROFESSIONAL CONDUCTS HIS MEDICAL PRACTICE?

A. Yes and no. The form by which the professional sells his services will be changed. The actual method by which the practitioner practices medicine would not be changed. The patients will contract with the association for the medical services rather than with the individual doctor. The patients would have the right to request the services of an individual doctor. The business operation of the practice would take on corporate-type operational practices.

Q. CAN A SOLO PRACTITIONER FORM A PROFESSIONAL ASSOCIATION AND HAVE IT RECOGNIZED FOR CORPORATE TAX TREATMENT BY THE I.R.S.?

A. Yes. During our exclusive interview, Mr. K. Martin Worthy, Chief Counsel for the Internal Revenue Service said, "We have stated in Revenue Ruling 70-101 that we will recognize as a corporation for tax purposes any professional corporation or association which is both organized and operated as a corporation under the laws of 45 states specified in that ruling; the fact that a corporation organized and operated under such a statute consists of a **sole practitioner** will not prevent its recognition for tax purposes." Mr. John S. Nolan, Deputy Assistant Secretary for the Treasury concurred.

Q. IS IT IMPORTANT FOR THE PROFESSIONAL TO RETAIN THE SERVICES OF AN EXPERT IN THE FIELD OF FRINGE BENEFITS?

A. Yes! A thorough understanding of how a professional association differs from a capital type of corporation is a must. Serious problems can be caused for the practitioner because of improper design and application of capital type corporate fringe benefits.

Q. WHAT ARE THE TWO MAIN TYPES OF RETIREMENT PLANS THAT MAY BE USED BY PROFESSIONAL ASSOCIATIONS FOR THEIR EMPLOYEES?

A. A pension and/or a profit sharing plan.

Q. WHICH PLAN IS THE BEST?

A. It would be impossible to answer this question without taking into consideration certain factors such as the age of the employees, the salaries paid, the investment goals of the employees and the amount of funds from which to fund the costs, which are tax deductible to the association.

Q. HOW ARE THE RETIREMENT BENEFITS DETERMINED IN A PENSION PLAN?

A. The monthly retirement benefit for an

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Indications: Peptic ulcer, gastroenteritis, pylorospasm, biliary dyskinesia, functional hypermotility and irritable colon.

Contraindications: Glaucoma, severe cardiac disease.

Precautions: Since varying degrees of urinary hesitancy may occur in elderly men with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug. Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

Side Effects: The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

Dosage: The maximal tolerated dosage is usually the most effective. For most adult patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthine is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

Pro-Banthine® 15 mg.
(propantheline bromide)
with
Dartal® 5 mg.
(thiopropazate dihydrochloride)

Indications: Peptic ulcer, spastic constipation, nonspecific gastritis, functional gastrointestinal disorders, pylorospasm, hyperhidrosis, irritable bowel syndrome, mucous or ulcerative colitis, functional diarrhea.

Contraindications: Glaucoma, severe cardiac disease.

Warnings: Pro-Banthine with Dartal should not be administered to patients who are under the influence of barbiturates, alcohol or narcotics. The drug should be administered cautiously to epileptic patients or those in depressed states, patients with liver disease and to pregnant women. Hypersensitivity to Dartal may occur rarely in patients with known sensitivity to similar drugs.

Side Effects: Dryness of the mouth, mydriasis, hesitancy of urination; less commonly extrapyramidal (restlessness, dystonia and signs of pseudoparkinsonism such as muscular rigidity, fixed facies, tremor, ataxia, festinant gait and drooling), parasympatholytic (blurred vision, xerostomia, hypotension, nasal congestion and constipation) and curare-like (loss of control of voluntary muscles, particularly the muscles of respiration) reactions. Rarely, leukopenia or allergic purpura. A generalized erythematous skin reaction may occur. Side effects characteristic of phenothiazines such as grand mal convulsions, altered cerebrospinal proteins, cerebral edema, potentiation of the effects of atropine, heat or phosphorus insecticides, autonomic reactions, endocrine disturbances, reversed epinephrine effect, hyperpyrexia or pigmentary retinopathy may theoretically occur but have not been reported with Dartal. Severe hypotension following recommended doses occurs more commonly in patients who are also afflicted by other medical disorders such as mitral insufficiency or pheochromocytoma, and particular attention should be paid to such a possibility although this has not been observed with Dartal.

Adult Dosage: One tablet three times a day.

Pro-Banthine® 15 mg.
(propantheline bromide)
with
Phenobarbital 15 mg.
Warning: May be habit-forming.

For *Indications, Contraindications, Precautions, Side Effects* and *Dosage* see Pro-Banthine. In addition, phenobarbital should be administered with caution to patients with liver disease, mental disturbances or a significant degree of hypoxia.

Pro-Banthine P.A.®
prolonged acting brand of propantheline bromide

For *Indications, Contraindications, Precautions* and *Side Effects* see Pro-Banthine.

Dosage Form: Capsule-shaped, compression-coated, peach tablets of 30 mg. for oral use.

Dosage: The recommended initial dosage is one tablet in the morning and one at night.

084

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employee is usually a percentage of the employee's monthly salary. The age, monthly salary and the retirement age of the employee determine the cost to the association. The Board of Governors will set the percentage of retirement benefits and then retain a pension consultant to determine the costs and other factors needed to have this plan approved by the Internal Revenue Service.

Q. WHAT IS THE MAXIMUM RETIREMENT BENEFIT THAT CAN BE ESTABLISHED FOR AN EMPLOYEE?

A. There is no set maximum. The regulations state that as long as the retirement benefit is a reasonable amount, the costs to fund the benefit for the employee may be deducted. It is thought that a retirement benefit up to 70 per cent of salary would be a reasonable benefit.

Q. WHAT IS THE MAXIMUM CONTRIBUTION THAT CAN BE MADE IN BEHALF OF AN EMPLOYEE TO A PROFIT SHARING RETIREMENT PLAN?

A. The association may contribute from its profits a sum of up to 15 per cent of the employee's salary. Therefore, if the employee were earning $36,000 per year, the contribution in his behalf would be $5,400.

Q. AS A PARTICIPANT IN A PROFIT SHARING PLAN, DOES THE EMPLOYEE HAVE ANY GUARANTEED RETIREMENT BENEFIT?

A. No. When the employee reaches retirement age, he will receive a percentage of the total value of the fund based on the contributions made in his behalf. The employee is usually allowed to take his retirement benefits as a monthly income or in a lump sum.

Q. CAN THE EMPLOYEE BE FURNISHED LIFE INSURANCE AS A PART OF A RETIREMENT PLAN?

A. Yes, with certain limitations as are provided by the regulations. A pension plan may provide for a pre-retirement death benefit of up to 100 times the monthly retirement benefit. If the monthly retirement benefit was $1,000, the pre-retirement death benefit could be $100,000. In a profit sharing plan, no more than 49.9 per cent of the annual contribution in behalf of the employee may be used to purchase life insurance. If the annual contribution for the employee was $5,400, then the maximum amount of funds available for the purchase of life insurance would be $2,694. Depending on the age of the employee, the amount would be greater for the younger employee.

Q. WHAT WOULD BE THE ADVANTAGE OF HAVING LIFE INSURANCE BENEFITS IN A PENSION OR A PROFIT SHARING PLAN?

A. The employee would have security for his beneficiaries immediately when the plan was installed. As life insurance coverage under a qualified pension or profit sharing plan enjoys freedom from income taxation and estate taxation, it is more valuable to the employee within a plan, than if he is the owner. Most life insurance companies will provide for reduced annuities (costs) when such contracts are a part of a qualified plan.

Q. HOW IS THE RETIREMENT PLAN OR PROFIT PLAN ADMINISTERED?

A. A tax exempt trust is established to create the funds needed to fund the retirement benefits. Funds are paid over from the association to the trustees, who in turn manage the trust. The trustees may be officers of the association. A trust agreement is drawn by the attorney which spells out the terms and requirements of the trust.

Q. WHY IS THE ELEMENT OF TIME SO IMPORTANT TO THE PROFESSIONAL WHO MAY BE CONSIDERING THE FORMATION OF AN ASSOCIATION?

A. As the retirement funds for the employees are accumulated under a tax exempt trust, the sooner the funds are invested, the larger the sum for retirement. As an illustration: $4,000 a year, invested to return 10 per cent compound interest, for the next 35 years will grow to $1,192,426. The same sum invested for only 34 years is worth $1,080,024. The delay of one year and we have a loss of $112,402. Reduced to a monthly cost, if our professional who is 30 years old, would wait until he was 31 years old to start his professional association, the sum would be $9,366 for each month he waited. Yes, delay is very costly when you deal with compound interest.

Q. WHAT IS THE COST OF FORMING A PROFESSIONAL ASSOCIATION?

A. The costs will vary depending on the fees charged by the attorney retained by the professional. The fringe benefit consultant's fees are usually free as his services are paid for by the companies from whom the fringe benefits are purchased. Most of the costs incurred with the formation of a professional association are tax deductible and this will cut down on the true cost.

Q. WHY HAS THIS NEW CONCEPT OF PROFESSIONAL PRACTICE CAUSED SO MUCH CONTROVERSY?

A. As attorneys and accountants are prohibited from soliciting new clients, it is left to the practitioner to seek out qualified help and information. There are over 150 professional associations, consisting of doctors, dentists, attorneys, licensed to practice in South Carolina. A better nnderstanding of what a professional association is and the fact that the I.R.S. will no longer contest their formation, should cause more professionals to choose this form of practice.

In summary, if the professional wishes to have control over the way his professional fees are going to be taxed, he can form an association. As long as the professional chooses to practice as a solo or partnership, there is very little he can do about his income tax bracket. Inflation, which has caused professional service costs to be increased, coupled with a progressive type of income tax schedule, is forcing many professionals to re-evaluate the costs of providing their services to the public. An association can be a means of holding these costs down.

By: W. F. Evans, President
W. F. Evans & Associates, Inc.
Regional Director for the
National Association of
Professional Corporations, Inc.
Washington, D. C.

Book Review

PSYCHIATRY IN MEDICAL PRACTICE, edited by Ephraim T. Lisansky, M. D., and Bernard R. Shochet, M. D. (Modern Treatment). New York: Harper and Row, Inc., 1969. 275 pp, $16.00 per year.

This edition of the series **Modern Treatment** is given over to a collection of essays for the non-psychiatrist physician. The guest editors are psychiatrists who have long been involved in an educational program at Baltimore Sinai Hospital sponsored by the American College of Physicians. Most of the authors have been intimately involved over the years with these courses.

This collection of papers falls into the same category as most collections; interesting in that they present the views of several people, but difficult to read consecutively because of the lack of continuity.

The selection of chapters appears to be based on questions frequently asked by the non-psychiatrist physician groups. The contents do not follow any traditional chapter outline of a psychiatric text, but rather speak to areas of concern such as psychotherapy, family therapy, and group therapy. There are chapters describing the physician's relationship with the social worker, the psychologist and the clergyman. There are chapters that deal with specific kinds of problems, such as the non-hospitalized schizophrenic, masked depression, and management of the dying patient.

The volume is worth reading, but should be read a chapter at a time, rather than straight through. It cannot be regarded as a reference text because of the brevity of the chapters. Of particular interest are the two chapters by the editors. Unfortunately, brevity, while placing a smaller burden on the reader, has rendered too many of the chapters useless for anything other than provoking a trip to the bookshelf for a more thorough handling of the subject.

R. Layton McCurdy, M.D.

RODERICK MACDONALD*

The subject of this brief account of a man we love and hold in highest esteem is with us tonight.

This is good—for, so often time passes quickly and before we know it the one we want to honor has passed from this earthly scene.

This man has attained many honors over the years. These have been bestowed upon him because of his fine training, experience, integrity and a disposition for making friends.

Most of his basic education and medical training were obtained here in his native State, having graduated from Blackstock High School, and later The University of South Carolina in 1919, and The Medical College of South Carolina in 1923. He served a general internship at Roper Hospital in 1922-1924.

He chose Ophthalmology as his specialty and took the basic course in that branch at Harvard, and later he served as Resident and Assistant in the Department of Ophthalmology at Yale and in the New Haven Hospital. He started to practice in Rock Hill, South Carolina, and there he has resided for many years.

He is a member of many societies, medical and otherwise. Those of particular interest to us are those, of course, associated with Ophthalmology. In fact, he has held office in several of these societies, some of them are as follows:

The South Carolina Medical Association of which he is Past President. The Southern Medical Association. The A.M.A., as well as the A.M.A. of Vienna, Austria, the Pan American Society of Ophthalmology.

Our friend is probably the most traveled and well known person in medical circles over the nation, and indeed abroad of anyone we know. In brief, he is an avid devotee of continued medical education for himself as well as others.

He has taken post graduate work at The University of Pennsylvania, New York Eye and Ear Infirmary, Manhattan Eye & Ear Hospital, Brooklyn Eye and Ear Hospital and Cook County Hospital in Chicago, Washington University in St. Louis, University of Indiana, George Washington University, D. C., and New York Post Graduate School of Medicine. He also attended post-graduate courses on two occasions in Vienna, Austria, and once in Budapest, London and Glasgow, respectively.

Only recently he completed a course in Microophthalmology at Down State Medical Center, New York University, Brooklyn. I defy anyone here or elsewhere to equal the above.

He is a Diplomate of The American Board of Ophthalmology as well as The American Board of Otolaryngology.

He is a Past President of The South Carolina Society of Ophthalmology and Otolaryngology, and he was the Secretary-Treasurer for twenty five years.

With Doctor V. K. Hart, he was a founding member of the joint meetings of The South Carolina and North Carolina Ophthalmology and Otolaryngology Societies. It was largely his influence and dedication which always made these meetings fine scientific as well as social gatherings. He, alone, usually made contact with outstanding speakers to be on the programs. He was the driving force in actually keeping alive these programs, thus making a tremendous contribution to what we now call *Continuing Graduate Medical Education* in eye, ear, nose and throat, for those in these specialties in North and South Carolina and adjoining areas of the South.

He is a Fellow and Past Governor of The

*The above tribute was presented, April 3rd, 1970, by Pierre Jenkins, M.D., upon the occasion of the annual banquet at the Fort Sumter Hotel, Charleston, S. C., as a part of the program of the annual conference of the Department of Ophthalmology, Medical University of South Carolina.

American College of Surgeons, and a member of The American Academy of Opthalmology and Otolaryngology.

He has been a member of Council and was chairman of Council of The South Carolina Medical Association.

He is a member of The South Carolina Board of Medical Examiners and has served as its President.

He is a Past President and at present is Secretary-Treasurer of The York County Medcal Society and also a consultant at the York County Hospital and a former member of its Board of Trustees.

He was a First Lieutenant of Infantry, U. S. Army in World War I.

As much as it is, the above does not tell all about this man.

His family and church connections round out a character molded by a rich Scots Presbyterian heritage and upbringing.

His charming "better half" has also had a large part in the stature of our friend.

Like his father, his only son and namesake naturally studied medicine and became an Ophthalmologist. He is now the Chairman and Professor of Ophthalmology at The University of Louisville, Ky., School of Medicine.

Not many of us can boast of progeny who have attained this point of leadership in our profession. In his own right, this son is making important contributions to Ophthalmological education.

Last but not least there are three lovely daughters. They are in the educational field, and there are several grandchildren.

A man of such determined will and rugged integrity must have his blood springing from "good stock," like that exhibited by the Scots, and this he has, and the name given him is a true label of those origins, for—he is: Roderick Macdonald.

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It is indeed fitting and proper that as a testimonial of our regard and esteem for Roderick, that a portrait of him be presented to The Medical University of South Carolina, which is to be placed in the area where the Residents in Ophthalmology work. They will then be reminded that one's professional excellence and real success is not obtained by making a lot of money, but by a constant seeking after the truth, enlarging one's horizons for more knowledge, hard work, honesty, and unselfish service to mankind.

Third Annual Conference on Clean Air

South Carolina Tuberculosis and Respiratory

Disease Association

Tuesday, October 27, 10:00 a.m.

Sheraton Inn, Columbia

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IUME 66 NOVEMBER, 1970 NUMBER 11





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References:
(1) Siver, R. H.: CMD, 21:109, September 1954. (2) Frykman, H. H.: Minn. Med., 38:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., 51:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., 15:15-16, October 1965. (5) Weekes, D. J.: NY State Jour. Med., 58:2672-2673, August 1958. (6) Ellis, S. and Spratt, J. S.: JOUR. AMER. GER. SOC., 18:410-415, May 1970.

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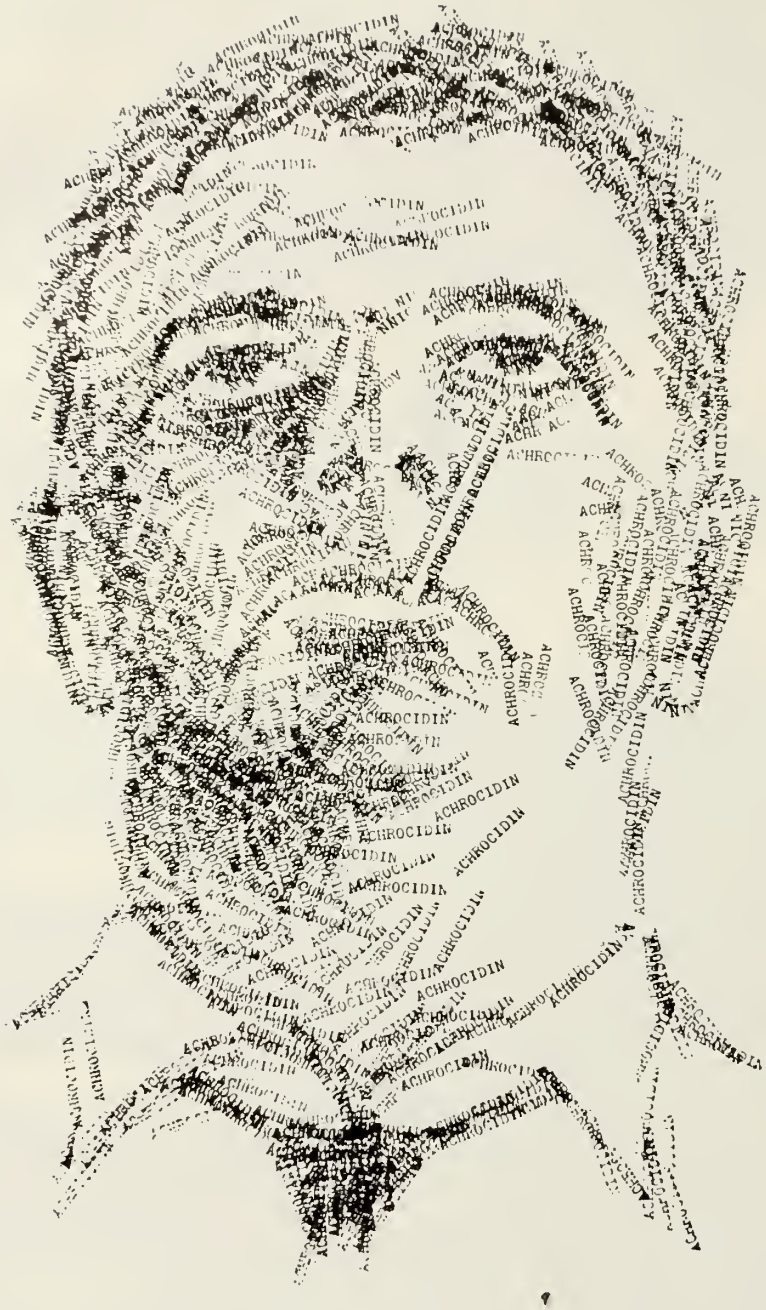
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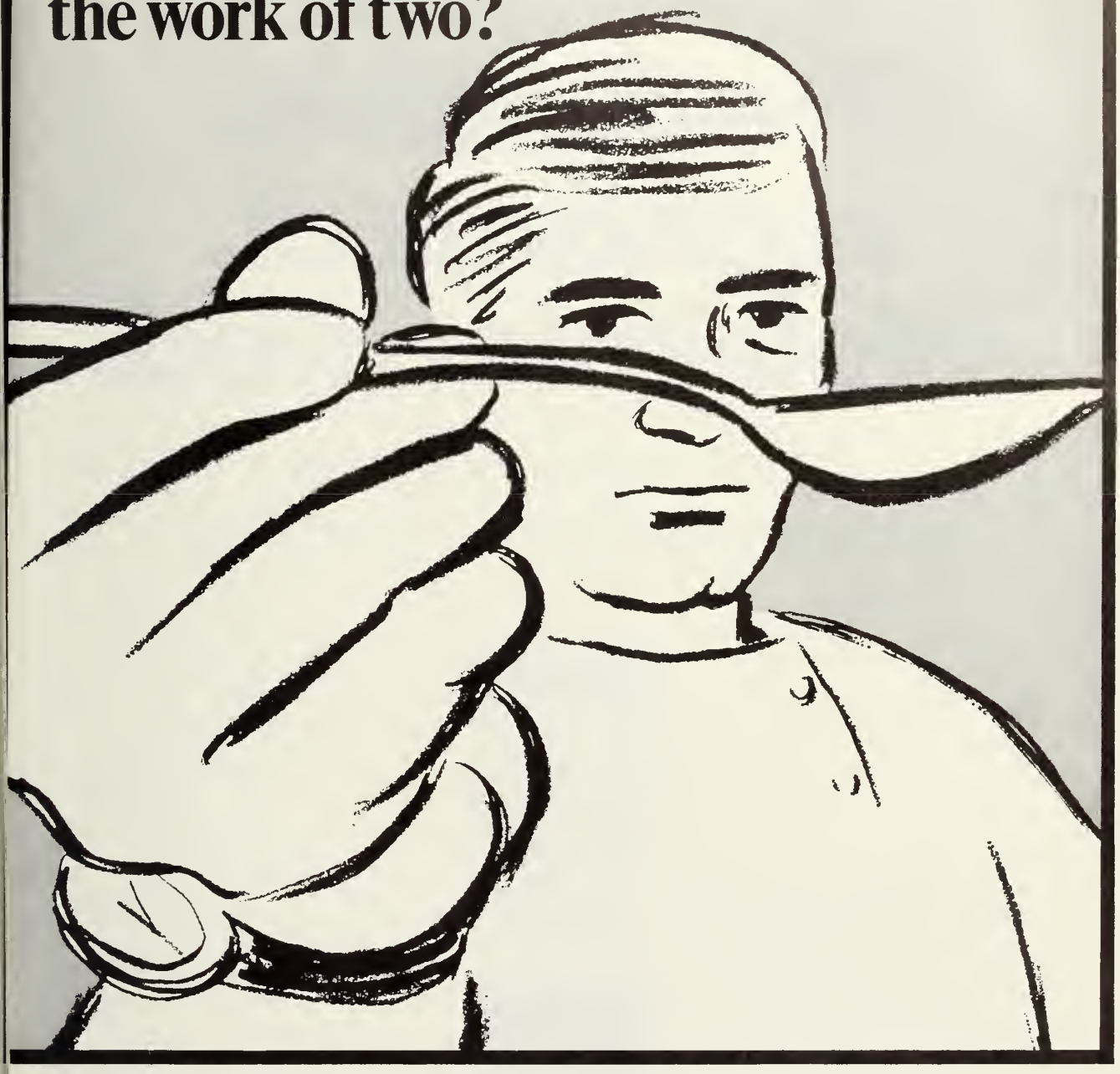
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*Slanger, A.: Med. Times *94*:150 (Feb.) 1966.

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Two strengths—two convenient dosage forms

Efudex is available as a 2% or 5% solution or as a 5% cream. It is applied twice daily by the patient with a nonmetal applicator or suitable glove.

Before prescribing Efudex, however, there are two important considerations. First, please consult the complete prescribing information for precautions, warnings and adverse reactions. Second, advise the patient that treated lesions should respond with the characteristic but transient inflammation. A positive sign that Efudex is working for them.

*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.

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new Efudex® (fluorouracil) cream/solution



For full prescribing information, please see the following page.

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Actions: There is evidence that the metabolism of fluorouracil in the anabolic pathway blocks the methylation reaction of deoxyuridylic acid to thymidylic acid. In this fashion fluorouracil interferes with the synthesis of deoxyribonucleic acid (DNA) and to a lesser extent inhibits the formation of ribonucleic acid (RNA). Since DNA and RNA are essential for cell division and growth, the effect of fluorouracil may be to create a thymine deficiency which provokes unbalanced growth and death of the cell. The effects of DNA and RNA deprivation are most marked on those cells which grow more rapidly and which take up fluorouracil at a more rapid pace. The catabolic metabolism of fluorouracil results in degradative products (*e.g.*, CO_2, urea, α-fluoro-β-alanine) which are inactive.

Studies in man with topical application of ^{14}C-labeled Efudex demonstrated insignificant absorption as measured by ^{14}C content of plasma, urine and respiratory CO_2.

Indications: Efudex is recommended for the topical treatment of multiple actinic or solar keratoses.

Contraindications: Efudex is contraindicated in patients with known hypersensitivity to any of its components.

Warnings: If an occlusive dressing is used, there may be an increase in the incidence of inflammatory reactions in the adjacent normal skin.

Prolonged exposure to ultraviolet rays should be avoided while under treatment with Efudex because the intensity of the reaction may be increased.

Usage in Pregnancy: Safety for use in pregnancy has not been established.

Precautions: If Efudex is applied with the fingers, the hands should be washed immediately afterward. Efudex should be applied with care near the eyes, nose and mouth. To rule out the presence of a frank neoplasm, a biopsy should be made of those areas failing to respond to treatment or recurring after treatment.

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Also reported were insomnia, stomatitis, suppuration, scalin swelling, irritability, medicinal taste, photosensitivity and lacrimation.

Laboratory abnormalities reported were leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Efudex should be applied twice dai with a nonmetal applicator or suitable glove in an amount of th solution or cream sufficient to cover the lesion. When Efudex is applied to a lesion, a response occurs with the following sequen erythema, usually followed by vesiculation, erosion, ulceration, necrosis and epithelization. The lower frequency and intensity c activity in adjacent normal skin indicate a selective cytotoxic property. Medication should be continued until the inflammatory reaction reaches the erosion, necrosis and ulceration stage, at which time use of the drug should be terminated. The usual duration of therapy is from 2 to 4 weeks. Complete healing of the lesion may not be evident for 1 to 2 months following cessation of Efudex therapy.

How Supplied: Efudex Solution, 10-ml drop dispensers—containir 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Efudex Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

Clinical Studies: The effectiveness of the three preparations as determined by complete involution of solar keratoses was: 2% Solution, 77% of 282 lesions; 5% Solution, 88% of 202 lesions; and 5% Cream, 85% of 189 lesions. In those lesions where complete involution followed treatment, the rate of possible recurrences observed clinically at periods up to 12 months or more was: 2% Solution, 4.6% of 218 lesions; 5% Solution, 1.7% of 177 lesions; and 5% Cream, 5.6% of 160 lesions. Because of the toxic potential of fluorouracil, some physicians preferred to use the 2% solution when large areas were to be treated. Approximately 30% of the lesions required treatment for two weeks or less; approximately 78% required four weeks or less for adequate treatment.

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TRICUSPID ENDOCARDITIS CAUSED BY HEMOPHILUS APHROPHILUS

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Introduction

Hemophilus aphrophilus endocarditis was first described in 1940 by Khairat.[1] Since then there have been several isolated case reports and a review of 15 cases involving this microorganism. Patients with this disease have almost uniformly had preexisting heart disease, with infection limited to the mitral and aortic valves. This microorganism has been consistently susceptible *in vitro* to streptomycin, tetracycline and cholramphenicol, and has shown variable susceptibility to penicillin G and ampicillin.

The case we report is unique in the following respects:

(1) It is believed to be the first case report of tricuspid valve involvement by *H. aphrophilus.*

(2) The disease progression was not significantly altered by treatment with ampicillin, penicillin G, or tetracycline despite *in vitro* susceptibility to these drugs.

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Case Report

A 27 year old Negro woman was admitted to the Charleston County Hospital on April 29, 1967, with a three week history of chills, fever, and malaise. She was in no distress and her oral temperature was 103.6° F. The heart was not enlarged, but there was a grade II/VI soft, blowing systolic murmur in the second and third left intercostal spaces. Physical examination was otherwise normal.

Laboratory studies revealed a hemoglobin of 10.1 gm/100 ml, hematocrit of 34 per cent, WBC 8,550/cu mm, blood urea nitrogen of 10 mg/100 ml, and a normal urinalysis. Ten of 12 venous blood cultures were sterile while two showed growth of a "micrococcus species", believed to be a contaminant.

Septic fever ensued, and, although no definite diagnosis had been established, treatment was begun on May 11 with 6 million units of aqueous potassium penicillin G intravenously and was continued for 9 days. There was no temperature response and her hemoglobin fell to 6.6 gm/100 ml.

On June 6, four blood cultures yielded *H. aphrophilus.* These cultures, along with two previously reported as "micrococcus species", were confirmed as *H. aphrophilus* by the National Communicable Disease Center, Atlanta, Georgia. Plate dilution and disc sensitivities showed equal susceptibility to ampicillin and penicillin G (bacteriostatic end points 0.78 mcg/ml; bactericidal end points 6.2 mcg/ml). The microorganism was also susceptible to cephalothin, tetracycline, erythromycin, carbenicillin, and colistin sulfate. On June 14 treatment with 4 grams of intravenous ampicillin daily was begun and was con-

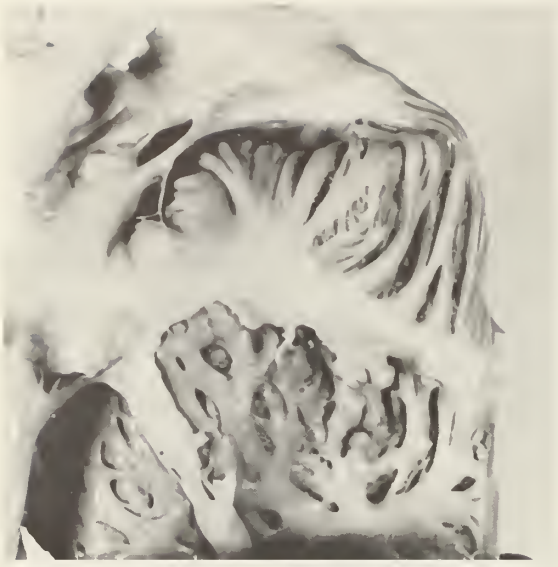


Figure 1. View of right ventricular cavity showing destruction of anterior and posterior inferior cusps of tricuspid valve. Also demonstrated are valvular vegetations and remnants of the ruptured papillary muscle.

tinued until June 21. A serum ampicillin level of 25 mcg/ml was detectable on June 19. Again there was no temperature response.

On July 4 aqueous potassium penicillin G 50 million units per day intravenously and chloramphenicol 2 gm per day intramuscularly were substituted. Four days later the patient had a grand mal seizure and penicillin was discontinued.

On July 20 a five week course of intravenous potassium penicillin G (10 million units per day) was begun. The patient developed clinical evidence of pulmonary infarction on August 19, but improved symptomatically and was discharged September 9, after being afebrile for six days. Eleven blood cultures drawn between July 4 and August 21 were sterile.

She was readmitted September 19 with pneumonia, congestive heart failure, and persistent hematuria. There was an atrial gallop and there were signs of tricuspid insufficiency, (pulsatile liver and prominent neck vein pulsations). Four blood cultures were sterile and sputum cultures grew *Klebsiella pneumoniae*. There was persistent hematuria. Oral treatment was begun with chloramphenicol 2 gm/day and tetracycline 2 gm/day. The possibility of septic pulmonary emboli was considered. She became afebrile, but chest roentgenograms showed no resolution and she expired suddenly on October 10, 1967. Since the most recent blood cultures were sterile, it was felt clinically that the patient died of pneumonia and complications of endocarditis (severe tricuspid insufficiency and unresolved pulmonary infarctions), and that uncontrolled tricuspid valvular infection was not present.

Necropsy Report

The heart was 15 cm in its greatest diameter and weighed 350 gm. Pulmonary emboli were present in the major branches of both pulmonary arteries. The tricuspid valve was 13.5 cm in circumference and multiple vegetations involved the anterior and posterior inferior cusps. A gaping defect was present in the anterior cusp, and the valve was grossly insufficient. The papillary muscle of the anterior cusp was obliterated by an infectious process extending to the endocardial surface. (Figure 1) Pleomorphic coccobacillary structures were present in the tricuspid valve preparations and were faintly Gram negative. All other valves were normal.

Many of the segmental bronchi were involved in a grossly purulent process. Wedge-shaped areas of infarcted lung tissue were present in both lungs and coccobacillary structures similar to those seen on the tricuspid valve were present in the infarcted areas. Cultures of the lung at autopsy grew only *Candida albicans*.

Both kidneys were contracted and pale. Focal glomerulitis in various stages, ranging from subacute to healed, was present in widely scattered glomeruli. (Figure 2)

Discussion

H. aphrophilus endocarditis has been infrequently reported. The most extensive review of this infection by Page and King[2] includes 15 cases. Fourteen patients recovered. Underlying heart disease was present in 13



Figure 2. Glomeruli containing hyalinized scars of focal glomerulitis. H&E X 40.

of these patients. Forty strains of *H. aphrophilus* were uniformly susceptible to streptomycin, tetracycline, and chloramphenicol. Forty-eight per cent of the strains were susceptible to penicillin G and 20 per cent were susceptible to ampicillin. Other clinical reports have also shown good response to treatment with a variety of antibiotic combinations.[2-6]

Despite demonstrated *in vitro* sensitivity to ampicillin, penicillin G, and tetracycline, and adequate therapeutic trials, our patient failed to respond. This is in contrast to the usual relatively benign nature of *H. aphrophilus* endocarditis.

All previous cases of *H. aphrophilus* endocarditis involved either the mitral or aortic valves and most have had underlying rheumatic heart disease.[3] This is believed to be the first report of tricuspid endocarditis caused by this microorganism, and there was no evidence of previous rheumatic heart disease. Furthermore, our patient was not a drug addict, and thus the predisposition of this group to right-sided endocarditis did not pertain.

The development of focal embolic glomerulonephritis with isolated right-sided endocarditis is unusual but not unique. Bain, et al, described a case of pneumococcal endocarditis of the tricuspid valve with associated focal embolic glomerulonephritis.[7]

In 1952 Bell expressed the opinion that "microembolic nephritis" resulted from bacterial embolization and capillary breakdown and not from thrombotic embolism.[8]

This explanation has been challenged by others who consider this renal lesion to be an intrinsic fibrinoid reaction in response to an allergic mechanism. Although our case does not offer definitive proof of either theory, it is interesting to note that no bacteria were found in the kidneys at post mortem examination.

Finally, it has been proposed that human infection with *H. aphrophilus* might result from close association with dogs. Isom, et al, described a case of *H. aphrophilus* brain abscess in which the patient's dog which harbored the microorganism often licked her about the face and neck.[9] Careful questioning disclosed that our patient had no close canine associations.

Summary

A case of tricuspid endocarditis caused by *Hemophilus aphrophilus* is presented. The patient died in spite of receiving antibiotics to which this microorganism showed *in vitro* susceptibility. This is in contrast to previously reported cases of *H. aphrophilus* endocarditis, in which the clinical course was usually benign. It is believed that this is the first case report of isolated tricuspid endocarditis caused by *H. aphrophilus*. Post mortem findings, including the changes of focal embolic glomerulonephritis in the absence of a left sided cardiac lesion, are described.

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POST-OBSTRUCTIVE DIURESIS

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Abstract

Massive diuresis of salt and water occasionally ensues when acute or chronic urinary tract obstruction is relieved. This condition, if unrecognized can lead to serious salt and water imbalance, even death. Two cases reported with accompanying renal biopsies were observed during such diuresis episodes. In conjunction with other reports we are concluding that the diuresis is not only due to pre-existing water and salt retention, but directly proportional to the degree of tubular damage.

Occasionally, following the release of urinary tract obstruction, one observes a phenomenon which has been designated by various authors as postobstructive diuresis, postobstructive natruresis, paradoxical renal failure, or postobstructive hypersaluresis. This entity is characterized by extraordinary urinary losses of water and salt following release of obstruction. In some case reports there have been as much as 13 liters of urine produced per 24 hours containing up to 150 mEq/l of sodium.

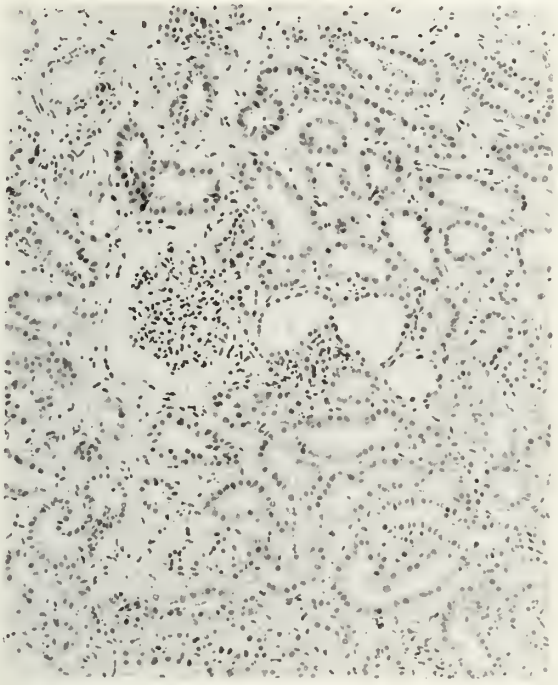
Wilson, et al,[1] made us more aware of this significant process in 1951 with the first reported cases. Further cases were reported by Bricker, et al, in 1957[2] and Muldowney, et al, in 1966.[3] Although giving us a better understanding of this entity the authors were not in agreement as to the basic pathophysiology. This disagreement is understandable when one realizes the complexity of the problem. The patient initially has retained massive amounts of fluid and solute but following release of the urinary tract obstruction, water and sodium diuresis frequently is so great that rapid fluid and electrolyte replacement becomes necessary to prevent circulatory collapse. After the diuretic phase, some patients have been observed to continue with excessive urine salt losses.

We have observed several patients who demonstrated postobstructive diuresis. In the past year, two of these patients had renal biopsy in conjunction with relief of their obstruction. Histological interpretation of these biopsies has helped us determine a more definite understanding of the entire process.

Case Reports

Case I: A 54 year old male with solitary kidney was admitted to the Medical University Hospital on March 31, 1968, with history of anuria for fifteen days. The patient had been diagnosed as acute tubular necrosis but with retrograde pyelography at the Medical University Hospital, it was discovered he had a radiolucent obstruction in the upper ureter. Exploration revealed a calculus obstructing the ureter and ureterolithotomy was done, after which a wedge biopsy of the kidney was taken. A T-tube was left in the ureter to afford accurate measurement of urine output. The patient diuresed approximately 11 liters per day for three days with gradual decline to less than 2 liters per day in ten days. The urinary sodium content initially was 120 mEq/l. This gradually declined to less than 50 mEq/l in ten days. During the period of diuresis, water and sodium were replaced at a rate equal to two-thirds of the measured output. The remainder of his recovery was uneventful and renal clearance studies were within normal limits of discharge. The biopsy sections in the first case revealed (Figure 1-A) tubular dilation, widening of Bowman's space, narrowing of glomerular

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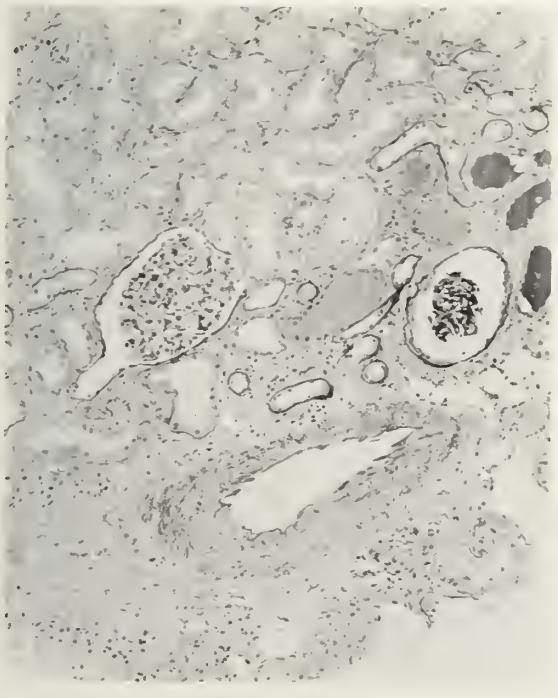


1-a



1-b

Figure 1-a, b, and c:
Photomicrograph of Renal Biopsy of Case #1.
See text for explanation.



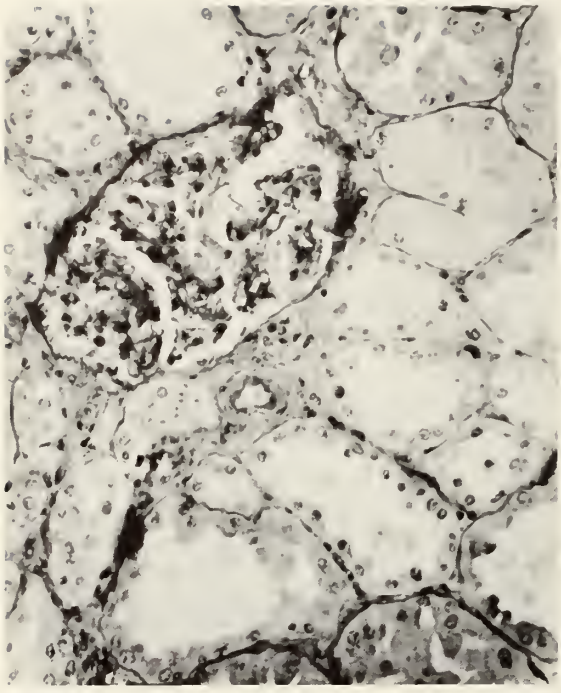
1-c

capillary lumens and interstitial edema. H&E x 100. (Figure 1-B) Same as Figure 1-A plus tubular epithelial hyperplasia which is presumed to be regeneration. H&E x 100. (Figure 1-C) Same as Figure 1-A plus intimal fibrosis in interlobular artery in a few tubles which approaches "thyroidization" and represents obstruction. AB-PAS x 100. Alcoriu Blue.

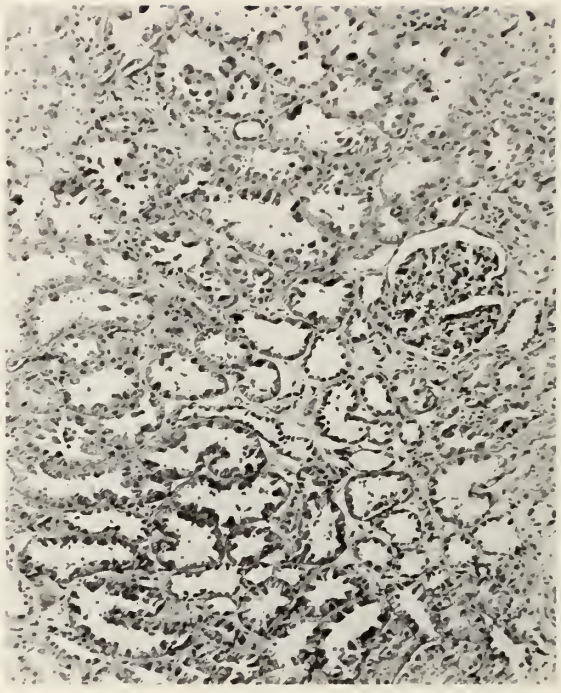
Case II: A 70 year old male with solitary kidney and history of urinary tract disease in the past was admitted to the Medical University Hospital on 12/20/67 because of oliguria of ten days duration.

Pertinent past history revealed suprapubic prostatectomy in 1965 with discovery of carcinoma of the prostate for which he was treated with bilateral orchiectomy and oral estrogen therapy.

Cystoscopy revealed obstruction of the right ureter by prostatic carcinoma preventing ureteral catheterization. A silastic nephrostomy tube was placed into the right kidney and a wedge biopsy of the kidney was taken. Diuresis began immediately and continued at a volume of 4,800 cc to 7,200 cc per 24 hours with a sodium excretion of between 60 and 90 mEq/1. During the period of diuresis, water and sodium were replaced at a rate equal to two-thirds of the measured output. Over the next six weeks his diuresis gradually abated, his blood and urine chemistry returned to normal levels, and his creatinine clearance was measured at 60 cc per minute. At discharge he was alert and comfortable with adequate renal function but with poor prognosis due to his ad-



2-a



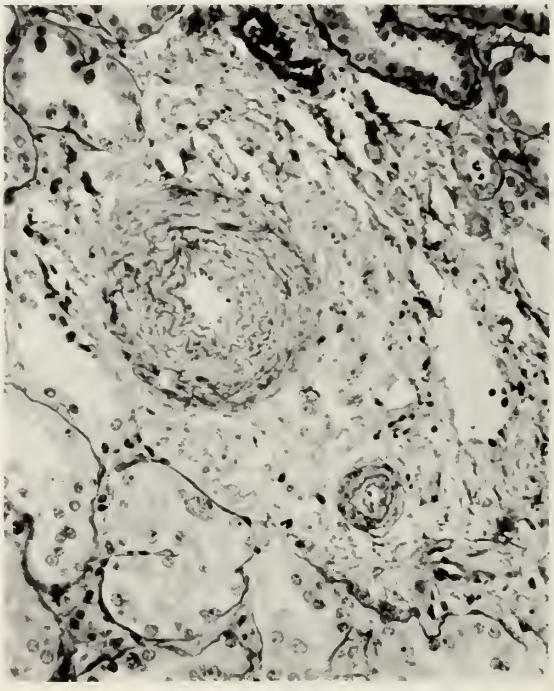
2-b

Figure 2-a, b, and c:
Photomicrograph of Renal Biopsy of Case #2.
See text for explanation.

vanced prostatic carcinoma. The biopsy sections of the second case (Figure 2-A) revealed hyaline arteriolosclerosis, thickening of the basement membrane, and dilation of the renal tubules AB-PAS x 250 (Figure 2-B) renal tubular dilation, reactive hyperplasia of rubular epithelium, narrowing of glomerular capillary lumens, and no appreciable edema H & E x 100, (Figure 2-C) fibroelastic changes in the wall of a small artery and hyperplastic thickening of an arteriole AB-PAS x 250.

Discussion

As mentioned in the introduction, several reports have been presented in the past, each of which has at least partially explained the mechanism involved in postobstructive hypersaluresis. Muldowney, et al, demonstrated the initial, sizable increase in total exchangeable body sodium. With the relief of the obstruction, this gradually returns to normal levels at the end of the diuretic phase. Even though they explained this diuresis as a physiologic response to massive sodium retention, they admit that at times the phase of sodium loss may be prolonged to the stage of genuine sodium depletion and may require sodium replacement during the diuretic phase and



2-c

later. Other studies have indicated that the site of pathology causing decreased sodium reabsorption lay in various portions of the nephron.[4-5] Brieker, et al, indieted the proximal tubule on the basis of his short term renal elearanee studies. Berlyne and Macken[6] in 1962 and Chisholm[7] in 1963 presented studies on dogs indieating that the deereased sodium reabsorption was in the distal tubule and confined to the obstructed kidney.

As is shown in our ease presentations of typieal postobstructive diuresis, salt and water loss after relief of obstruction was massive and lasted over several weeks duration. The seeond case was one of ehronic, partial obstruction in a solitary kidney due to earcinoma of the prostate. Both cases represent insults superimposed on kidneys previously damaged from reeurrent disease.

The syndrome of postobstruetive diuresis seems to have an aeute phase immediately following the relief of urinary obstruetion lasting for approximately seven to ten days whieh is due to massive solute and water load presented to severely damaged kidneys. However, after the aeute phase, the salt loss eontinues for an indefinite period of time usually lasting anywhere from several days to several weeks.

Conclusion

In eonjunction with previously reported studies, these two cases with eonfirmatory renal biopsies illustrate that even though the initial phase of postobstruetive diuresis is due to massive solute and water load presented to damaged tubules, the prolonged salt wasting is directly proportional to the renal tubular damage. Also, the hypersaluresis subsides only as the tubules recover.

The postobstruetive diuresis syndrome may be due to damage by prolonged, partial urinary tract obstruction or by eomplete urinary traet obstruetion of relatively short duration superimposed on pre-existing renal damage. There is no way to prediet who will respond in this manner upon relief of urinary traet obstruetion. However, it is neeessary that the clinician expeet such a response and realize that fluid and electrolyte replaeement is usually neeessary.

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PERINATAL MORTALITY IN CHARLESTON, S. C.

THE THIRD CONSECUTIVE FIVE YEAR STUDY

HENRY C. HEINS, JR., M. D.*

This is the third consecutive study of perinatal mortality in Charleston hospitals.[1,2] This period of analysis includes the years January 1, 1964, through December 31, 1968.

The fundamental reason for such an investigation is the expectation that it will contribute to the ultimate goal of a normally developed, emotionally well-adjusted child from each conception. A more immediate reason will be education of patients, doctors and nurses.

The same definition of perinatal mortality is used as in the previous two five-year studies. Perinatal mortality is defined as mortality among fetuses or infants that weigh 1000 grams or more at birth, or who die before delivery, or before the end of the first week post partum. This strict definition does not depend on gestational age or infant length.

There occurred 25,245 births of which 211 were less than 1000 grams. In the remaining 25,034 there were 704 perinatal deaths.

Again in this study the patients were divided into two groups, white and non-white. Despite the fact that since 1966, an intensive (and expensive) program of prenatal care for so-called high risk patients has been in operation, the results remain depressing and disappointing.

*Assistant Professor Obstetrics & Gynecology, Medical University of South Carolina.
This study was sponsored by Bureau of Maternal and Child Health, South Carolina State Board of Health.

There were 15,462 white births over 1000 grams with 293 perinatal deaths. There were 9,572 non-white births with 411 perinatal deaths. The perinatal mortality rate is computed as follows:

$$\text{Perinatal mortality rate} = \frac{\text{fetal and neonatal deaths} \times 1000}{\text{live births and deaths}}$$

The rates for the various Charleston hospitals are given in tables 1 and 2. Again in this study, the difference is small among the white hospitals, the one exception being the group of white patients in the Medical University Hospital which is weighted with the so-called "problem referral patients." The significant difference is between the white and non-white groups. (Figure 1)

There appears to be an increasing percentage of loss with the premature colored group

TABLE 1

PERINATAL MORTALITY BY HOSPITAL

Non-white:	Med. Univ. Hospital	McClennan Banks
Deliveries over 1000 Gm	8151	1421
Perinatal deaths	372	39
Perinatal death rate	45/1000	27/1000
Fetal deaths	235 (63%)	31 (79%)
Neonatal deaths	137 (37%)	8 (21%)
Autopsies	140 (37%)	6 (15%)
Less than 2500 Gm	238 (63%)	22 (56%)
Greater than 2500 Gm	134 (37%)	17 (44%)

TABLE 2

White:	Roper	Med. Univ.	St. Francis X.	Baker
Deliveries over 1000 Gm	6150	3220	4864	1228
Perinatal deaths	107	94	69	23
Perinatal death rate	17/1000	29/1000	14/1000	18/1000
Fetal deaths	65 (60%)	41 (43%)	30 (43%)	12 (52%)
Neonatal deaths	42 (40%)	53 (57%)	39 (57%)	11 (48%)
Autopsies	32 (30%)	50 (53%)	19 (27%)	4 (17%)
Less than 2500 Gm	55 (51%)	51 (54%)	44 (63%)	12 (52%)
Greater than 2500 Gm	52 (47%)	43 (46%)	25 (37%)	11 (48%)

(less than 2500 grams). Some investigators[3] feel this is a specific low birth weight group because of certain socio-economic factors such as diet. It has been suggested that newborn children from certain minority groups in the United States, especially from the Negro population, show a comparatively high maturation and lower birth weight. It was interesting in this study that 18 per cent of the non-white births were less than 2500 grams whereas only 5 per cent of the white births were less than 2500 grams.

A larger number of ante partum deaths in the non-white group were found again in this study. (Graph #2) This higher figure is in keeping with the larger number of mothers in this group admitted late in pregnancy or in labor having been unattended. Approximately 10 per cent of non-white registered in the first trimester compared to 90 per cent of the white patients.

The same classification of deaths was used as in previous studies.[4,5]

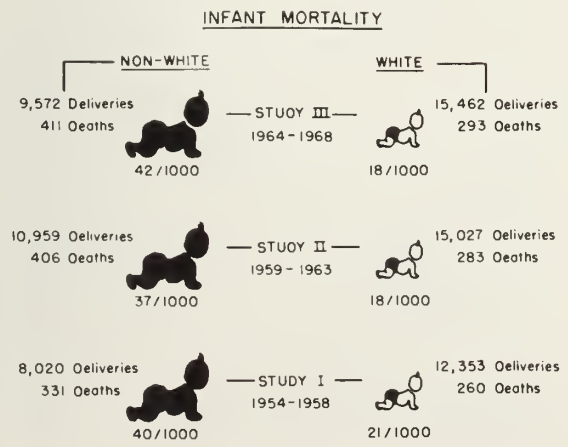


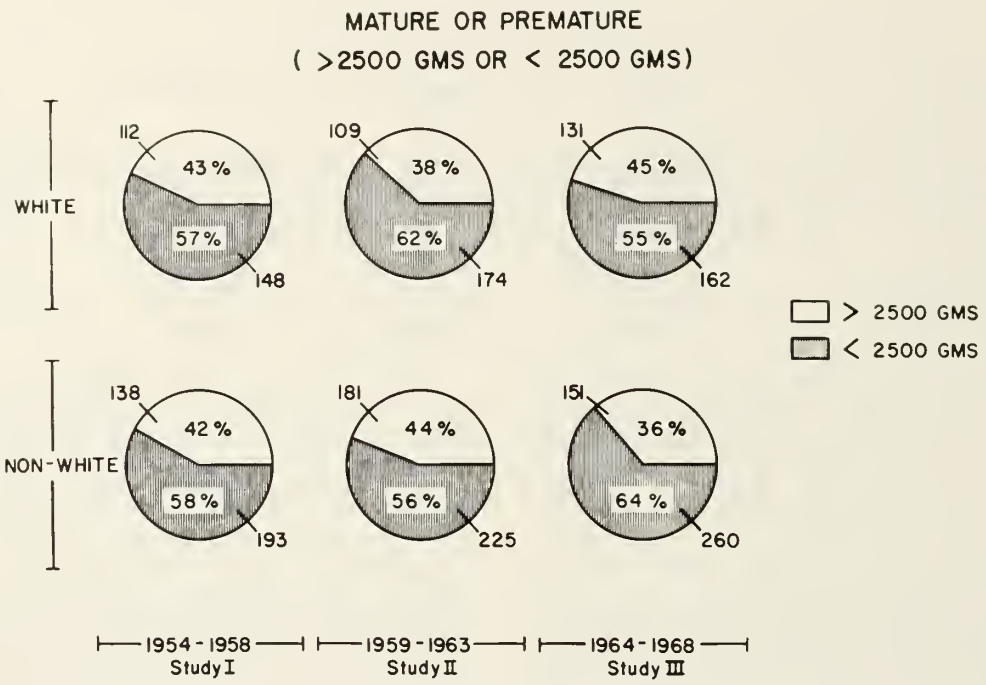
Figure 1

Potter[5] believes that rather than give simply the number of deaths in a classification or its percentage, a more accurate method of tabulation should be used. She has suggested the incidence per thousand births. (Graph #3)

1. *Anoxia:* There continues to be many causes of anoxia during pregnancy, labor and delivery but abruption of the placenta is the most common. (Graph #3) There occurred 36 deaths in the white and 81 deaths in the non-white group caused by premature separation of the placenta. This larger figure in the latter group is no doubt influenced by the larger number of toxemia patients. Early diagnosis and timely intervention to effect delivery by the most conservative procedure possibly may spare the fetus an anoxic death. In some cases, the most conservative procedure will be abdominal delivery.

Placenta previa caused the death of eight infants in the white group and nine infants in the non-white group. It is worthwhile to note that 15 of this total of 17 infants were less than 2500 grams. A policy of expectant management in carefully selected cases of placenta previa may have real advantages. Nesbitt[6] has estimated that one quarter of the patients with placenta previa can be given this conservative care for the desired period. Labor or bleeding before term necessitates the examination and the delivery of the great majority by the most appropriate means, often despite immaturity of the fetus.

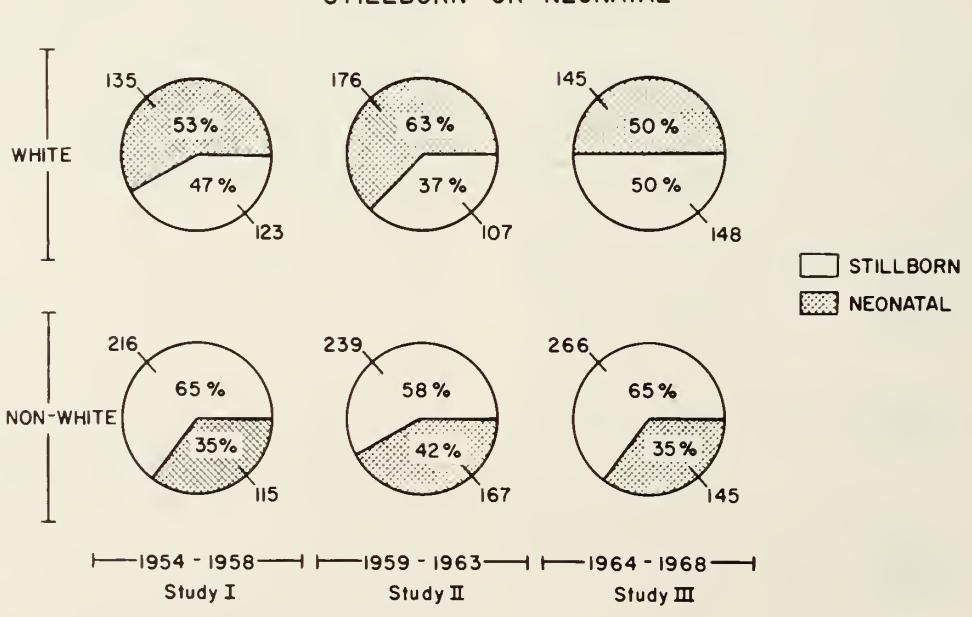
2. *Cord Complications:* Cord complications caused the death of 12 white and 24-non-white infants. Thirty-one of these cord complications were fetal deaths. Only five were neonatal deaths. The fetus has to be monitored frequently in labor. Immediate delivery by



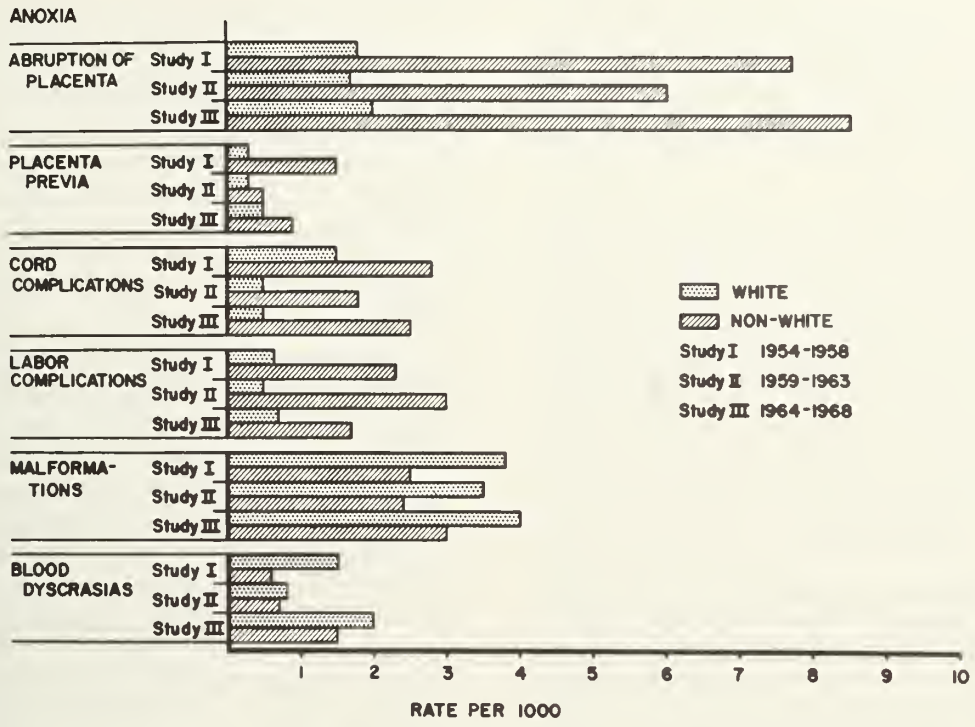
Graph 1

the abdominal route, if the patient is not near full dilitation, is the treatment of choice.

3. *Complications of Labor:* Prolonged labor or complications of labor were the causes of death in 12 white infants and 17 in the non-white group. Refinements in the mechanical aspects of obstetrics and emphasis on conservative approaches have been credited in large measure for the significant downward trend in perinatal mortality. These approaches include the choice of cesarean section over difficult vaginal delivery and



Graph 2



Graph 3

elimination of high forceps as well as avoidance of versions and extractions. Better evaluation of the pelvis and judicious use of pitocin stimulation and cesarean section have kept the proportion of difficult mid-forceps low. Broadening the number of fetal indications for cesarean section will permit optimum fetal salvage. The cesarean section rate for these two groups of patients remains between five and six per cent.

A special word of caution should be expressed concerning the real hazard of unwarranted premature intervention in cases of elective repeat cesarean section. When doubt exists about the duration of pregnancy or maturity of the fetus, abdominal delivery should be deferred until the onset of labor.

4. *Malformation:* This group included only malformations which were considered incompatible with extra uterine life. (Graph #3) There were 62 white infants and 29 non-white infants in this category. This increased rate of anomalies in the white group has been reported by others. A careful medical, genetic, and family history will often alert the clinician to an increased risk of malformed fetus. He should curtail radiation of his obstetrical patient, especially in the first trimester. Drug administration should be selected wisely and administered only upon strict indications, since a growing list of potential teratogens has been identified.

5. *Blood Dyscrasias:* Although Rh isoimmunization accounts for the vast majority of erythroblastotic infants, a small minority may be caused by ABO blood factors in a wide variety of rare incompatibilities. There were 33 white infants and 15 non-white infants in this grouping of patients. (Graph #3)

Rh positive mothers who have given birth to an affected infant should be subjected to a broad immunological screen in an attempt to identify the incompatible factor.

Rh negative mothers with a history of birth of an infant with documented hemolytic disease should have amniocentesis at appropriate instances to test the amniotic fluid for bilirubin spectrophotometrically. To minimize the risk of kernicterus, particularly in an immature infant, the blood must be exchange-transfused soon after birth and the procedure

repeated as necessary. Successful transfusion of the fetus in utero has been achieved recently by injecting type O negative blood through the uterine wall directly into the abdominal cavity of the fetus. This technique attempts to sustain the fetus until reasonable maturity.

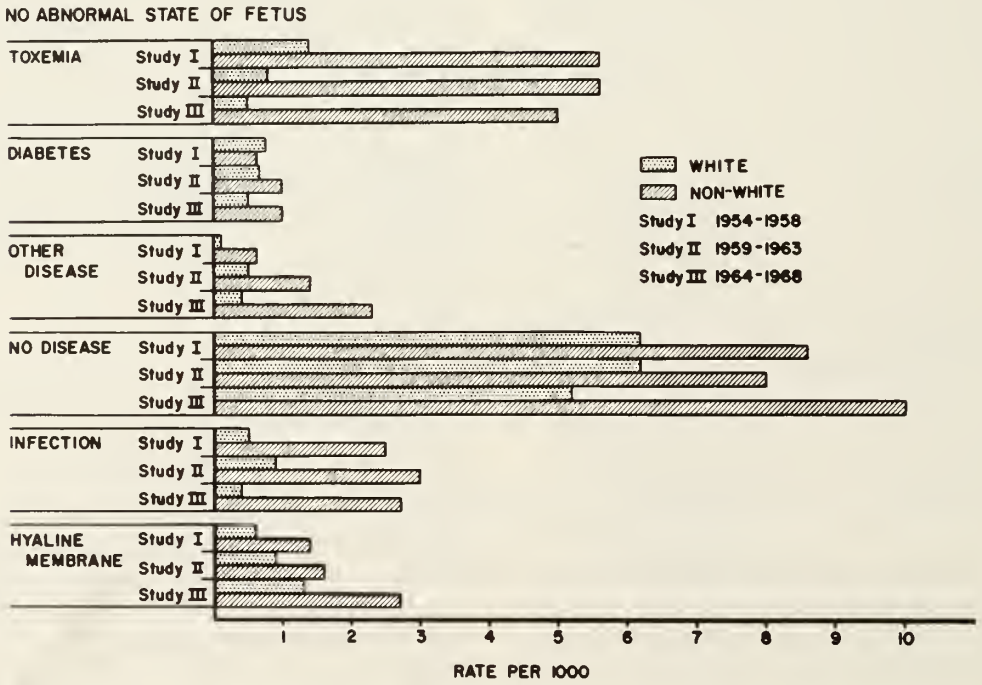
The chief hope in combating this disease is in the administration of gamma-globulin (RhoGam) to the mother in the first 72 hours postpartum to suppress specific immunological response to fetal Rh positive cells. All Charleston hospitals now have the routine of giving RhoGam to any unsensitized Rh negative mother who delivers a Rh positive infant, unless she signs refusal to accept the treatment.

6. *No Abnormal State of Fetus:* The "with toxemia" group (Graph #4) was much larger in the non-white; 48 to 8 white infants. There is a much higher incidence of toxemia of pregnancy in the non-white group of patients. Screening of all pregnant women for danger signals is important but certainly those predisposed to toxemia need intensive supervision. The timing of medical intervention is crucial. One has to decide which is safer for the infant, intrauterine or extrauterine existence.

In the "with diabetes" group, there were 8 white infants, (all fetal deaths) and in the non-white group there were 12 deaths (10 fetal and two neonatal losses). The trend continues to induce labor if the cervix is at all favorable at 37 or 38 weeks gestation. If the cervix is not favorable or induction fails, abdominal delivery is carried out. A decision to deliver a patient earlier than this should be based on specific indications, since fetal immaturity with its high incidence of respiratory distress imposes a grave neonatal hazard.

The "with other disease" group was made up chiefly of infants whose mothers had renal disease. Pylonephritis was the most common type. There were seven white losses and 22 non-white deaths in this group. (Graph #4) Eighteen of these 22 non-white infants weighed less than 2500 grams.

Kass has called attention to the association between asymptomatic bacteriuria and increased perinatal mortality, an increase due for the most part to a higher frequency of premature births. The lower urinary tract and generative tracts are closely related so



Graph 4

that through elaborate neurological, vascular, and lymphatic connections the functions and reactions of one may influence the other.

The fourth and most important group of infants without abnormal state were the infants born to mothers without maternal disease. This, again, is the largest group in the series. (Graph #4) There were 81 white infants and 104 non-white infants in this large category. The losses were divided almost equally between fetal and neonatal deaths in both groups, but three fourths of them weighed less than 2500 grams. These are the patients who experienced the onset of early labor with resulting loss of a premature infant. The cause of premature labor is obscure as is the cause of term labor. In many instances, efforts were made to stop premature labor with large doses of opiates. Here the difficulty was compounded by the delivery of a narcotized premature infant. It has been repeatedly emphasized that more prematures could be salvaged by the avoidance of analgesia than by any one pediatric measure. Increased uterine tone often antecedes onset of premature labor by several days or weeks. An adequate bed rest which reduces muscle tone and improves placental circulation, is desirable prophylaxis.

7. *Infection:* There were six white losses and 26 deaths in the non-white group. (Graph #4) Intrauterine infection of the fetus most commonly takes the form of pneumonia and is almost always caused by bacteria in the amniotic fluid which is aspirated by the fetus. Prolonged or desultory labor may produce hypoxia in the fetus and increase the likelihood of aspiration of amniotic fluid. After premature rupture of the membranes, antibiotic therapy throughout the latent period does not prevent intrapartum infection nor does it have a beneficial effect upon reducing perinatal mortality. It is the usual policy to administer antibiotics intensively during labor and the puerperium. Infective lesions which cause death within the first three or four days after birth have usually been contracted intrapartum. An infection relatively mild in a mature infant would be fatal to a premature. To avoid these hazards, labor may need to be induced in appropriate cases when the rupture of membranes occurs at or near term and the obstetrical situation is favorable. When feasible, it is desirable to accomplish delivery within 24 hours of membrane rupture.

8. *Hyaline Membrane Disease:* This diagnosis was made in 20 white infants and 25 non-white infants. (Graph #4) Forty-one of this total of 45 patients were less than 2500 grams. For premature infants, the precise environment requirements remain controversial in spite of extensive research. Proper emphasis needs to be given to temperature, humidity, oxygen electrolytes, nutrition, water balance, chemotherapy and the like for these infants with respiratory distress syndrome.

The autopsy percentage has been computed for each hospital. (Tables 1 and 2) Only 35 per cent of the 704 perinatal deaths were studied post-mortem. This poor percentage of autopsy continues during the three studies. In the first five-year study, 56 per cent of 591 deaths were autopsies, as were 43 per cent of 689 deaths in the second study. This poor trend obviously needs correction. The post-mortem examination must continue to be sought to expose the ultimate condition responsible for death.

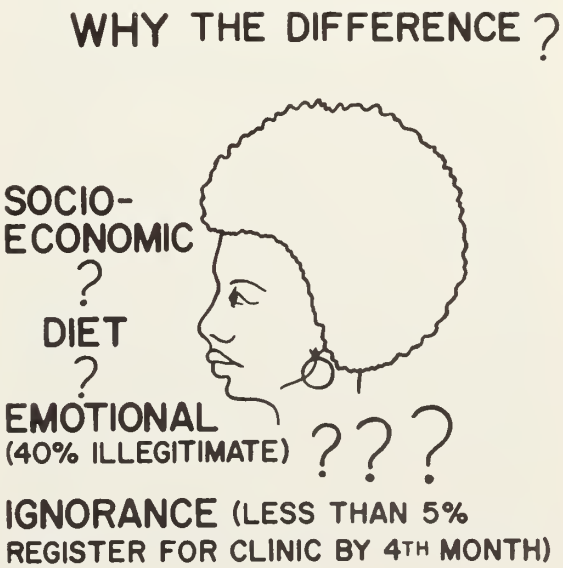


Figure 2

In 1966, a project grant of the Maternity and Infant Care Program was begun in Charleston County, administered by the Charleston County Health Department and the Medical University of South Carolina. This program was to encourage early registration for prenatal care, seek out high risk patients and to offer family planning.

The non-white patient continues to register late for prenatal care. This patient has twice the perinatal mortality of the white patient. Approximately five per cent of the non-white patients were 15 years old or less, and 40 per cent of them are unmarried. The pregnant teenager still in school is reluctant to register early for prenatal care. Many authorities are concerned with the poor and worsening prenatal attendance of indigent patients. The family planning aspect of the program seems to be the one bright or encouraging part of the study. Approximately 7500 patients attended this birth control clinic with 80 per cent choosing oral contraception and 20 per cent using the intrauterine device. During this five-year study, termination of fertility by tubal ligation was carried out in one of twenty (5 per cent) of the non-white and one in forty (2½ per cent) of the white patients.

The answer to the entire perinatal mortality problem seems to revolve around lack of motivation for early care. This is, no doubt, due to lack of education. It continues to be more a social problem than one of obstetrics and gynecology. (Figure 2)

The high-risk obstetric patient is a risk socially and economically and not just as a maternity case. One speculates that if the hazards of poor housing, poor nutrition and poor motivation could be removed from these women, they would do as well obstetrically as the more affluent private patient. A questionnaire study has been organized in an attempt to learn specific factors regarding lack of motivation.

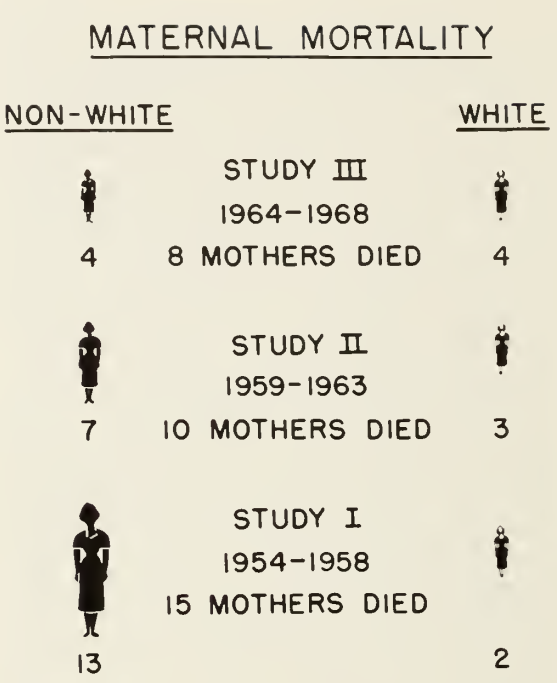


Figure 3

During this five year study there occurred eight maternal deaths compared to 15 in the first, and ten deaths in the second five year study. These eight deaths were evenly divided, four white and four non-white mothers. (Figure 3)

Summary

1. The perinatal deaths for a third consecutive year period have been studied in Charleston hospitals.
2. The causes of perinatal mortality need to be identified because they must also be the causes of congenital handicaps in infants who do not die. Many clinicians have expressed the opinion that simple survival or death of a fetus or newborn is too crude a measure of reproductive performance. They hold that quality of the product, that is, performance in later years may be an expression of perinatal factors.
3. The perinatal mortality continues much higher for the non-white than the white patient.

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Value of Serial P Wave Changes in Indicating Left Heart Failure in Myocardial Infarction—J. Heikkila and P. Luomanmaki. Brit Heart J 32: 510-517 (July) 1970.

In evaluation of left ventricular failure of acute myocardial infarction, electrocardiographic left atrial overloading (LAO) was determined by P terminal force and correlated with simultaneously recorded clinical and radiological signs of left ventricular dysfunction (pulmonary rales, pulmonary edema, palpable paradoxical cardiac pulsation, gallop sounds and papillary muscle dysfunction) in 200 consecutive patients. Analyses were made on admission at three to four weeks, and six months after infarction, LAO was significantly associated with signs of left ventricular dysfunction. In this unselected series of infarctions the prevalence of abnormal P terminal force was 46%. This finding is to be considered as a contributory sign in the entire clinical setting of left ventricular failure. In individual patients, the commonly marked serial changes are helpful in indicating the direction of the course of the hemodynamic disorder. The prognostic value of the P terminal force was highly significant.

Pseudo Intermittent Claudication—H. I. Weiser. Harefuah 78:487-489 (May 15) 1970.

Seven cases of intermittent claudication caused by degenerative disease of the lumbar spine are presented. Two women and five men experienced marked pain and paresthesia in the lower lumbar and sacral segments after walking 8 to 50 meters. The pain in the lower extremities disappeared after stopping and stooping. In three patients a myelographic stop was found in the lumbar region. One patient presented with osteoprosis of the spine and slipping forward of the fourth lumbar vertebra over the fifth. Two patients had symptoms or irritation of the fifth lumbar nerve root. Severe osteoporosis with compression fractures of the 12th dorsal and second lumbar vertebrae was found in an additional patient and another had severe spondylarthrosis of the lumbar spine. Two patients with midline prolapse of a disc underwent decompression with removal of the prolapsed disc; all symptoms gradually disappeared, although the neurological deficit remained for a relatively long time. Remarkable improvement in pseudo-intermittent claudication was observed during a period of one to 2½ years in four patients who were not operated upon.

Treatment of Malignant, Metastasizing Tumors by Stereotaxic Transsphenoidal Electrocoagulation of Pituitary—A. M. Landolt and J. Siegfried Schweiz Med Wschr 100:1297-1305 (July 25) 1970.

This is a report on the results of sterotaxic transsphenoidal electrocoagulation of the pituitary in 34 patients with advanced metastatic tumors (30 mammary carcinomas, three prostatic cancers, and one malignant melanoma), no longer responsive to hormonal or cytostatic therapy. In this group the dangers and complications were insignificant and this operation could, therefore, be performed even in severely ill patients. Twenty-three of 29 patients with diffuse bone pain were relieved for varying periods of time. One half of the surviving patients were pain-free for as long as seven to eight months after surgery. Three patients did not show improvement.

Diagnosis of Pulmonary Embolism—K. P. Poulose et al. Brit Med J 3:67-70 (July 11) 1970.

Seventy-one patients with suspected pulmonary embolism (PE) had both pulmonary scans and angiograms. On the basis of clinical findings, it was not possible to predict the absence or presence of subsequent angiographic evidence of PE in the individual patient. In 24 of these patients, the scans revealed defects that were believed to indicate a high probability of PE, ie, perfusion defects that corresponded to specific anatomical segments of the lung, together with normal chest radiographs or radiographs suggestive of PE. Specific angiographic evidence of PE was found in 18 (75%) of these patients. Diffuse, patchy and non-segmental perfusion defects were seen in 28 patients. Only seven (25%) of this group had angiographic abnormalities specific for embolism. In 12 patients with normal lung scans none showed subsequent evidence of embolism by angiography. Lung scanning is a sensitive screening procedure for PE.

THE "TRIP" OF A TWO YEAR OLD

GEORGE D. JOHNSON, M. D.
SAMUEL E. ELMORE, M. D.
FRED F. ADAMS, JR., M. D.
Spartanburg, South Carolina

The mother saw her two and one-third year old child eating a small rose colored pill and holding another in a small piece of cigarette wrapper. She immediately got all she could out of the child's mouth and came to our office. The child was given 15 ml of syrup of ipecac. She was crying. The mother left at once and before she could get to the hospital, ten minutes away, the child vomited. She had recently had lunch—a blessing.

By the time she arrived at the emergency room the child's pupils were dilated and fixed and she recognized nothing nor anyone. An intravenous infusion of 2½ per cent dextrose in half strength lactate Ringer's solution was started. What had the child taken? The parents said they had never seen the pills before but admitted having gone to ride with some acquaintances from another town and that the acquaintances had spoken casually of having "taken a trip".

One doctor thought perhaps the pill was parathion or malathion to be put in a sprayer and used on plants. Another thought perhaps it was one of the amphetamines. Because of the possibility of the first, atropine 1/500 gr was given; because of the latter thorazine was given and activated charcoal was put in the stomach through a nasogastric catheter. Heart action and respirations were normal. The abdomen was soft—reflexes weak.

The pill resembled nothing in the *Physicians Desk Reference*. The father took the other pill to several different druggists and even to his veterinary without any identification. He called his acquaintances in the neighboring town. One couple was on their honeymoon, the other was out of town. We all felt that neither parent had any idea what the pill was.

By six p.m. we still had no idea what the pill was and the chemists at Deering-Milliken Research Center very kindly ruled out parathion and amphetamines for us. The major ingredient identified was lactose.

By that time the child was beginning to look around and observe her surroundings and the people near her. She still did not speak. By eight p.m. she began to take liquids by mouth and her pupils began to react properly.

At about 8:30 p.m. the assistant state narcotic agent, Mr. Tom Wyatt, Jr., came to the pediatric ward, took one look at the pill and immediately recognized it as a typical "cherry slice". Each pill was supposed to contain about 50 mcg of LSD, but since the pills were poorly made, the amount of LSD varied a great deal. Other names for the pill, according to its color, were orange blossom and purple haze. A few days later the State Law Enforcement Division (SLED) with special apparatus positively identified the pill as containing LSD.

The next morning the intravenous infusion was discontinued, the child ate a normal breakfast and seemed all right except for being a little wobbly. An EEG done almost exactly 24 hours after ingestion of the pill was normal and the child since that time has seemed perfectly normal as far as the parents can determine.

Mr. Wyatt took the pill back to the emergency room for doctors, nurses, aides, and

orderlies to see. It is about one-fourth inch in diameter and rose colored, but similar pills may be orange or purple.

Several features of this case are worthy of comment. First, it is the youngest case recorded. The AMA package library could find only one case near this child's age and he was five years old. Second, the child had just eaten lunch, which was good in that the food prevented rapid ingestion of whatever amount LSD she had swallowed. Third, the child vomited within 30 minutes after ingestion of the pill. Fourth, the administration of thorazine was the proper treatment for LSD but it was given with the idea that perhaps the child had ingested amphetamine. Fifth, an EEG done almost exactly 24 hours after ingestion was normal.

Pulmonary Forms of Infectious Mononucleosis in Children—P. Ensel, M. Dordain, and R. Dailly (Clinique de Pediatrie et de Puericulture, Rouen, France). Sem Hop Paris 46:2090-2096 (June 26) 1970.

Two cases of pulmonary form of infectious mononucleosis are reported, both having characteristic blood pictures and Paul-Bunnel reactions. In one case pulmonary signs dominated; in the other they were mild. The radiological signs wer different in both. Appearances resembling atypical virus pneumonia may be encountered, but also a granular appearance, mediastinal lymph nodes and, more rarely pleural effusion. Pulmonary signs are found in a context resembling infectious mononucleosis, but may occur alone. A blood count and Paul-Bunnel test should be routine in all cases of pneumonia if the etiology is not obvious.

The Painful Deep-Vein Syndrome—N. L. Browse Lancet 1:1251-1253 (June 13) 1970.

Six patients presented with pain and tenderness in the calf and popliteal fossa and along the course of the superficial femoral vein, and with mild edema—physical signs usually associated with femoral vein thrombosis. Objective studies failed to reveal any deep-vein thrombosis. These were probably patients with "painful deep veins."

Bundle Branch Block in Acute Myocardial Infarction—R. M. Norris and M. S. Croxson. Amer Heart J 79:728-733 (June) 1970.

The incidence of bundle branch block in 565 patients admitted to a coronary care unit was examined. Right bundle branch block (RBBB) was present in 7% of patients, with a mortality rate of 61%, and left bundle branch block (LBBB) in 4% of patients, with a mortality rate of 48%. RBBB was associated with a significantly higher incidence of asystole than LBBB. This usually occurred during the course of complete heart block and was not a terminal manifestation of shock or cardiac failure. The presence of left axis deviation did not adversely affect the prognosis of patients with RBBB, either for survival or for the development of asystole. RBBB nearly always developed during the course of anterior transmural infarction, and autopsy in fatal cases showed proximal occlusion of the left anterior descending coronary artery in almost all. The site of infarction could seldom be determined from the cardiogram in patients with LBBB, and autopsies showed more generalized coronary atheroma. The use of a transvenous electrode catheter attached to a demand pacemaker should be considered in patients with anterior transmural infarction who develop RBBB.

President's Page

When the House of Delegates of the South Carolina Medical Association held its annual meeting in May of this year, there was a great deal of discussion about Blue Shield of South Carolina's Usual and Customary contract. Because of the dissatisfaction expressed by physicians and the public, Blue Shield agreed to replace the UCR contract with a paid in full fee schedule contract.

A committee has been appointed by the Council of the South Carolina Medical Association to develop a negotiated fee schedule which will be acceptable to the physicians in the state, as well as Blue Shield. The committee consists of a representative from Obstetrics and Gynecology; General, Thoracic, and Cardiovascular Surgery; Ophthalmology; Psychiatry; Radiology; Internal Medicine; General Practice; Urology; Anesthesiology; Pediatrics; Orthopedic Surgery; and Pathology.

On August 5, 1970, the committee met with officers and staff members of Blue Shield at their home office. It was explained that the object of the new fee schedule is to provide a coverage that Participating Physicians will accept as full payment. This means that the physicians and Blue Shield must agree on units and unit values for each procedure performed. The committee members were asked to contact the physicians in their specialties and then submit a fee schedule for negotiation.

Blue Shield offered to co-operate with the committee in every way and has done so by handling printing, mail-outs, and other requests from the committee.

Although the representatives may use various methods to determine the fee schedule for their specialty, each physician has been or will be contacted for information and suggestions concerning his fees. Please make it a point to co-operate with your representative. We are being given the opportunity to negotiate a fee schedule that will provide payment in full for our services. Let's take advantage of the opportunity instead of being apathetic now and discontented later.

William L. Perry, M. D.

WISDOM

Robert E. Quinn, M.D.

I've passed some time in grandiose dreams
And dwelt sublime on weighty themes,
And, all in all, one lesson learned,
How much love small kindness earned.



CALORIES / 7 oz. Serving*

Beef Broth	22	Vegetable	68
Consommé	29	Tomato	69
Chicken with Rice	43	Cream of Asparagus	70
Chicken Gumbo	48	Cream of Chicken	76
Chicken Noodle	54	Cream of Mushroom	115
Cream of Potato	58	Green Pea	116
Chicken Vegetable	60	Cream of Shrimp (Frozen)	132
Vegetable Beef	66	Bean with Bacon	133

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Actions—Demulen acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Demulen depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

Special note: Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision. Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.



Indication—Demulen is indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1,3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration, and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear, since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Demulen. Therefore, if such tests are abnormal in a patient taking Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Demulen may mask the onset of the climacteric. The pathologist should be advised of Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions; neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

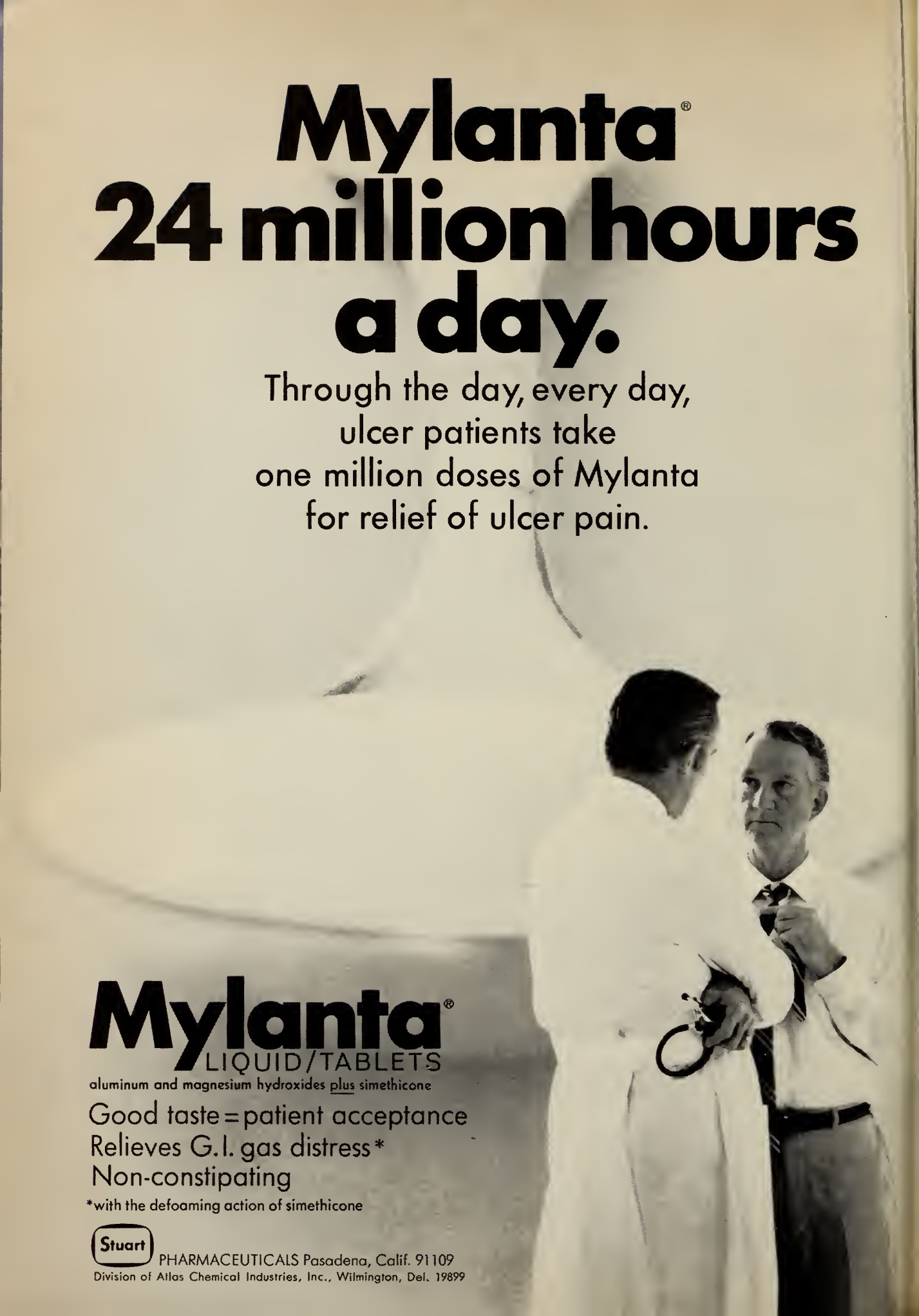
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0A4

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Editorials

Transition

As editor, it is a challenging task to assume the duties of a person such as Dr. Joseph I. Waring. In this role I feel somewhat as if I fit the description given Hubert Humphrey when campaigning for president by a well known Republican who said, "He has so much to be modest about!" Fortunately, Dr. Waring has most graciously agreed to help maintain continuity of the *Journal* through frequent counsel with the new editor. Also, the new editorial assistant, Mrs. Esther Temple is very capable and well experienced, having served previously with Dr. Waring in this capacity.

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More of the Same

In *Modern Medicine* for June 13, 1970 appears an editorial by Irvine H. Page, M. D., entitled "Conformity In A World Of Change". With most of what he says I can heartily agree. However he gives a list of "suggestions not wholly acceptable to him," the record of which pertains to health care which is "believed to be every man's right, and is no longer a privilege". His opinion on this is not given since the statement as written is ambiguous. I hope he does not so believe. Much has already been said on this point but I would like to belabor it.

If the public has a right to my acquired knowledge and skills, then he has the same right to anyone else's knowledge and skills. This is, of course, ridiculous. As pertains to all others, the physician's skills are his own property acquired through years of industry and self sacrifice through the help of God. If this is not so, then indeed we have reverted to the dark ages when man protected and defended himself, his family, and his own by whatever means were available.

The human race is not back at this point nor is it, on the other hand, anywhere near the ultimate Utopia into which too many do-gooders are trying to push it by force. This is just not going to work, and the greater the effort in this direction the greater the evil will be.

It should be our duty and privilege as physicians to render our services wherever and whenever they are essential (not just wanted) whether or not they can be paid for. The privilege of doing this where it is needed has been denied us by a government which sadly underestimated the services which we had been giving away. As dedicated physicians we resent this, and I for one am absolutely convinced that socialism in all its forms can only lead to worse things, ultimately to dictatorship, terrorism, and despair, much of which is already upon us, and I don't see much help coming out of the A.M.A.

J. W. Jervey, M. D.

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Editorial Policy

We are hopeful that the editorial pages of the *Journal* will serve to some degree as a forum for members of the South Carolina Medical Association. Editorials or comments are welcomed for publication in the *Journal*. We would request that these not be unduly lengthy, ordinarily not over one double-spaced typewritten page, and would plan to print them over the name of the contributor. Obviously these will reflect the opinion of the contributor and not necessarily that of the *Journal* or South Carolina Medical Association.

Members of the S. C. Medical Association may soon be given the opportunity of obtaining low-cost life insurance without the bother or requirement of submitting evidence of health insurability. Some of the outstanding features of the plan are:

1. Non Cancellable Coverage
2. Guaranteed Rates
3. Low Costs

The plan is fully approved and recommended by Council and your Insurance Committee. The Company has agreed to provide "Guarantee-Issued" coverage for either $10,000 or $20,000 as selected by each eligible member under age 70 without any health questions provided at least 400 such applicants choose to apply during the Initial Enrollment of the program.



Dr. Henry E. Kistler, Jr., gynecologist and obstetrician, has joined the staff of Memorial Clinic in Seneca. Dr. Kistler graduated from the Duke University Medical School and practiced last year in Toccoa, Georgia. **Dr. James W. Gilbert** has been named medical director for the Upper Savannah Health District, which includes Abbeville, Edgefield, Greenwood, Laurens, McCormick and Saluda Counties. Dr. Gilbert graduated from Southwestern Medical School in Dallas and received his Masters Degree in Public Health from the University of Michigan.

Governor Robert McNair has appointed **Dr. Winston Y. Godwin** of Cheraw and **Dr. William Hunter** of Clemson to the executive committee of the State Board of Health. **Dr. W. Neil Padgett, Jr.**, a native of Marion and a graduate of the Medical University of South Carolina, has established a practice of obstetrics and gynecology in Owensboro, Kentucky.

Dr. David B. Gregg, director of Tuberculosis Control for the State Board of Health, has been elected president of the Southern Thoracic Society at its annual meeting in Memphis, Tennessee. **Dr. C. Capers Smith**, who was associated with the Medical University of South Carolina for 22 years, has been named superintendent of Broughton Hospital at Morganton, North Carolina.

Dr. David Burdge established his practice in obstetrics and gynecology in Simpsonville in August. Dr. Burdge graduated from George Washington University Medical School and served his internship at Greenville General Hospital. **Dr. Fletcher C. Derrick, Jr.**, a faculty member of the Medical University of South Carolina, has accepted an appointment as professor and chairman of the Department of Urology at George Washington Medical Center in Washington, D. C. He will assume the post on January 1. **Dr. Harold S. Pettit** has been elected to a second term as board chairman of Horizon House, a non-resident institution for youthful offenders.

". . . . IT IS VIRTUALLY, IF NOT ABSOLUTELY, IMPOSSIBLE FOR THE LAYMAN TO MAKE AN INTELLIGENT CHOICE BETWEEN TWO CONTRACTS." . . . . . .

Sixty-Second Annual Report
Department of Insurance
of South Carolina.

The Chief Insurance Commissioner's same report also contains a protest against fading value of accident and health insurance policies, as a result of "offenses against the public."

Let's Pick for Performance!

ıe most recent report by the Department of insurance, ısed on the financial statements of all of the 21 ›mestic commercial companies that sold accident and alth insurance, discloses that they paid claims totaling rely 47.5% of the accident and health premiums they llected.

l2 months, South Carolinians paid those companies 0,297,505 more than was returned in benefits. Also vealed is that out-of-state companies paid claims in uth Carolina totaling less than 68% of the premiums ey collected in the State, in the same accident and alth insurance business. South Carolinians paid those mpanies - 208 of them - $27,801,438 more than was urned in benefits.

The Department of Insurance reports that Blue Cross-Blue Shield paid claims totaling more than 86% of premiums received. Moreover, since that report was issued, Blue Cross and Blue Shield have simplified and improved all contract administration to expand coverage over more of their subscribers' needs. Benefits that would once have been denied are now often paid under improved contracts. Since January 1, 1969, the Department of Insurance has approved 352 changes and additions to contracts of Blue Cross or Blue Shield. All were voluntarily submitted by the service plans to perfect their protection for subscribers.

The purpose is to get the best care for most people at least cost.

Blue Cross®–Blue Shield®
OF SOUTH CAROLINA

— — — Financial data for Fiscal Year ending June 30, 1969.



(This is the second of a series of public service announcements to help everyone choose knowledgeably the type of contract and carrier that gets the best health care for the most people at least cost.)



Medical University of South Carolina

Dr. Curtis P. Artz, professor and chairman of the Department of Surgery, Medical University of South Carolina, has received an Honorary Diploma of the Czechoslovak Society of Surgery for his achievements in the research and treatment of burns. The award was made during opening ceremonies of the Third International Congress on Research in Burns held in Prague. The Medical University of South Carolina was selected to represent the United States at the Congress. **Dr. Dabney Yarbrough,** Assistant Professor of Surgery and **Thomas Hargest,** Associate in Surgery, also attended the Congress. Papers on burn treatment and research authored or co-authored by Medical University faculty members, **Drs. John A. Moncrief** and **Maria Buse,** were presented during the six-day Congress.

Dr. Paul H. O'Brien, a cancer specialist, has joined the faculty of the Medical University of South Carolina as associate professor of surgery and director of the Cancer Clinic. Dr. O'Brien received his degree at Northwestern University Medical School, served his internship in Wesley Memorial Hospital in Chicago and did his residencies at Cook County Hospital, Chicago, and Memorial Hospital for Cancer and Allied Diseases in New York. He has been a professor at Northwestern University Medical School since 1965.

A $50,051 research grant has been awarded to **Dr. Charles T. Fitts** of the Medical University of South Carolina by the National Institute of Allergy and Infectious Diseases. The research will be conducted in lymphocyte depletion for immunosuppression.

Dr. Elsie Taber, professor of anatomy, has been selected by the Medical University for recognition in the 1970 edition of "Outstanding Educators of America." Dr. Taber, a past president of the South Carolina Academy of Science, has taught at the Medical University for 23 years and has written 100 scientific papers.

Dr. Stuart N. Richardson has been appointed Assistant Dean for Curriculum Affairs at the College of Medicine. An associate professor of medicine, he heads the Hematology Section of the Department of Medicine.

Dr. Michael G. Weidner, Jr., Chief of the Surgical Service at the Veterans Administration Hospital and professor of surgery, has been named Assistant Dean for Student Affairs at the College of Medicine, Medical University of South Carolina. He has been a faculty member since 1962. Dr. Weidner taught at Vanderbilt and Western Reserve Medical School before joining the Medical University faculty in 1962.

A fellowship has been named after **Dr. Maxine Larisey** in recognition of her service to education by the South Carolina Division of the American Association of University Women. As associate professor of biology, Dr. Larisey has taught in the College of Pharmacy, Medical University of South Carolina, since 1947.

MEETINGS

Registration for the **Second Annual Family Practice Refresher Course,** to be held at the Sheraton-Fort Sumter Hotel in Charleston, will be open from October 1 through December 11. For further information and registration forms, please contact:



Drip stopped, Congestion cleared

For upper respiratory allergies and infections, up to 12 hours clear breathing on one tablet. Dimetapp Extentabs® do an outstanding job of helping clear up the stuffiness, drip and congestion of colds and upper respiratory allergies and infections. Each Extentab keeps working up to 12 hours. And for most patients drowsiness or overstimulation is unlikely.

INDICATIONS: Dimetapp is indicated for symptomatic relief of the allergic manifestations of respiratory illnesses, such as the common cold and bronchial asthma, seasonal allergies, rhinitis, conjunctivitis, and otitis. CONTRAINDICATIONS: Hypersensitivity to antihistamines. Not recommended for use during pregnancy. PRECAUTIONS: Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension. SIDE EFFECTS: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered. DOSAGE: 1 Extentab morning and evening. SUPPLIED: Bottles of 100 and 500.

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when an unnerving experience compounds the pain



the compound analgesic that calms instead of caffeinates

In addition to pain, this patient has experienced anxiety, fear, embarrassment, and frustration. No doubt these psychic factors actually increased her perception of pain. Surely the last thing she needs is an analgesic containing caffeine. The logical choice is Phenaphen with Codeine. It provides a quarter grain of phenobarbital to take the nervous "edge" off, so the rest of the formula can control the pain more effectively. It's no accident that the Phenaphen formulations contain a sedative rather than a stimulant. Don't you agree, Doctor, that psychic overlay is an important factor in most of the accident cases you see?

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Phenaphen with Codeine Nos. 2, 3, or 4 contains: Phenobarbital (¼ gr.), 16.2 mg. (warning: may be habit forming); Aspirin (2½ gr.), 162.0 mg.; Phenacetin (3 gr.), 194.0 mg.; Hyoscyamine sulfate, 0.031 mg.; Codeine phosphate, ¼ gr. (No. 2), ½ gr. (No. 3), or 1 gr. (No. 4) (warning: may be habit forming). **Indications:** Provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products, excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon, although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.
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When girth gets out of control, TEPANIL can provide sound support for the weight control program you recommend. TEPANIL reduces the appetite—patients enjoy food but eat less. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation.

Controindicotions: Concurrently with MAO inhibitors, in patients hypersensitive to this drug; in emotionally unstable patients susceptible to drug abuse.

Worning: Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovascular disease. Do not use during first trimester of pregnancy unless potential benefits outweigh potential risks.

Adverse Reactions: Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence. As is charocteristic of sympathomimetic agents, it may occasionally cause *CNS effects* such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported. Sympathomimetic *cardiovascular effects* reported include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others. *Allergic phenomena* reported include such conditions as rash, urticaria, ecchymosis, and erythema. *Gastraintestinal effects* such as diarrhea, constipation, nausea, vomiting, and abdominal discomfort have been reported. Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia. A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

Convenience of two dosage forms: TEPANIL Ten-tab tablets: One 75 mg. tablet daily, swallowed whole, in midmorning (10 a.m.); TEPANIL: One 25 mg. tablet three times daily, one hour before meals. If desired, an additional tablet may be given in midevening to overcome night hunger. Use in children under 12 years of age is not recommended.

T-006A / 1/70 / U.S. PATENT NO. 3,001,910

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unwelcome bedfellow for any patient– including those with arthritis, diabetes or PVD

One thing patients can sleep without, particularly patients with chronic disease conditions such as arthritis, diabetes or PVD, is painful night leg cramps. Although seldom the presenting complaint, night leg cramps can tie your patients up in painful knots. Now, just one tablet of QUINAMM at bedtime can usually bring an end to shattered sleep and needless suffering. Your patients will sleep restfully—gratefully—with QUINAMM, specific therapy to prevent painful night leg cramps.

Prescribing Information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Precautions/Adverse Reactions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

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(quinine sulfate 260 mg., aminophylline 195 mg.)

Specific therapy for night leg cramps

Dr. Vince Moseley, Director, Division of Continuing Education, Medical University of South Carolina, 80 Barre Street, Charleston, South Carolina 29401.

The American Board of Family Practice has announced that it will give its second examination for certification in various centers throughout the United States on February 27-28, 1971.

The Department of Otolaryngology of the Eye and Ear Infirmary of the University of Illinois Hospital and the Abraham Lincoln School of Medicine of the College of Medicine, University of Illinois at the Medical Center, will conduct a postgraduate course in **Laryngology and Bronchoesophagology** from March 15 through 26, 1971. This course is limited to fifteen physicians and will be under the direction of Paul H. Holinger, M.D. For additional information, please write directly to the Department of Otolaryngology, University of Illinois at the Medical Center, Post Office Box 6998, Chicago, Illinois 60680.

The Journal of the South Carolina Medical Association

50 YEARS AGO

November 1920

Hospital standardization was to the interest of the state association. An article stated that there were 26 general hospitals in South Carolina and two or three others in the process of construction. Only four of these had a 100-bed capacity. Together they had a total capacity of 1,400. The South Carolina Hospital Association was formed by the House of Delegates of the S. C. Medical Association. An advertisement for the Chester Sanatorium noted that Dr. W. R. Wallace was a staff member for internal medicine and obstetrics.

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High school facilities for a limited number of appropriate patients are now available on grounds. The School Program is fully integrated into the hospital treatment program and is accredited through the Asheville School System.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

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or

(2) Samuel N. Workman, M.D.
Chief of Clinical Services

(3) Charles W. Neville, Jr., M.D.
Assistant Professor of Psychiatry
and Medical Director

HEALTH LIBRARY NETWORK SERVES SOUTH CAROLINA

Any health researcher, practitioner, or student of the health sciences in South Carolina now has prompt and economical access to a vast stock of library materials and services through a cooperative program arranged by the South Carolina Regional Medical Program, the Medical University of S. C. and Emory University, Atlanta.

Total resources of these libraries are in excess of 700,000 volumes. Services include:
1. Reference Services. MEDLARS (Medical Literature Analysis and Retrieval System) are provided for the region by the MEDLARS Center at the University of Alabama Medical Center. Other reference services include answers to questions of fact and the preparation of brief lists of references.
2. Educational Services. Instructions to potential users concerning the functions and services of the Regional Medical Program are available. Educational programs are provided for trained biomedical librarians as well as for untrained or inadequately trained personnel in small hospital libraries. Advisory services are provided as required.
3. Interlibrary Loans. Physicians and other qualified health practitioners in South Carolina, regardless of location, are eligible to borrow original materials or to receive free photo copies.

Requests for library materials should be submitted on standard American Library Association interlibrary loan forms which are available at most public and larger hospital libraries, by letter, or by telephone. Requests originating in South Carolina should be addressed as follows:

Interlibrary Loan Department
Health Affairs Library
Medical University of South Carolina
80 Barre Street
Charleston, South Carolina 29401

Telephone requests may be submitted by calling the Interlibrary Loan Department at 792-2371 or 792-2372.

Resolution Adopted by the Board of Directors of the South Carolina Division of the American Cancer Society

WHEREAS: the Seven Warning Signs of Cancer, publicized by the American Cancer Society, are for all practical purposes the most reliable summary of the fundamentals for planning for an adequate cancer detection examination in the doctor's office, and

WHEREAS: the early detection of cancer—often before there are manifested symptoms—is the key to increased cancer cures, and

WHEREAS: the crux of the problem of the office examination for cancer is to encourage physicians to use the basic clinical tools available in an atmosphere of cancer-consciousness in the examination of every patient, and

WHEREAS: current salvage rates of one cancer patient in three could be with more widespread early detection be as high as one in two, this amounting to more than 110,000 more lives to be saved in the United States each year and over 800 in South Carolina,

BE IT THEREFORE RESOLVED THAT the South Carolina Division of the American Cancer Society begin a program to make EVERY DOCTOR's OFFICE A CANCER DETECTION CENTER and actively promote activities to stimulate more physicians to adopt a CANCER DETECTION EXAMINATION THAT INCLUDES:

inspection of the entire skin, the mouth, nose, throat, the neck (including the thyroid, breasts, abdomen, pelvic in the female (including a Pap test), the rectum (including the prostate in the male), and a sigmoidoscopic examination of the lower colon, a chest x-ray film (especially for heavy smokers), blood tests, as well as any other examination the physicians feels indicated,

in recognition that if physicians think along the lines of this examination he will see and palpate more lumps and see to it that more diagnostic instruments and procedures are employed, and the result will be better cancer detection in South Carolina.

Suggestions for Christmas

The Committee on Historical Medicine of the South Carolina Medical Association reminds you that a limited number of first editions of Volumes 1 and 2 of *A History of Medicine in South Carolina* by Joseph I. Waring, M. D. are still available. Volume 1 covers the period from 1670 to 1825 and volume 2 from 1825 to 1900. The books can be obtained at your local dealer or from us.

Committee on Historical Medicine
South Carolina Medical Association
80 Barre Street
Charleston, South Carolina 29401

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We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.

REGIONAL MEDICAL PROJECTS FUNDED IN SOUTH CAROLINA

The South Carolina Regional Medical Program has been awarded $1,604,807 for continuation of 16 operational projects.

Heart Disease, Cancer, Stroke and related diseases are the statewide targets being funded by the grant.

The funds will cover third-year operational cost of the projects for a period beginning August 1, 1970 and ending June 30, 1971.

Projects funded by the grant include six statewide activities sponsored by the Medical University of South Carolina. They are: a cooperative program on cancer of the cervix, directed by **Dr. Paul Underwood** and **Dr. Keene Wallace**; a pediatric cancer education and service project directed by **Dr. Samuel K. Morgan**; a chronic hemodialysis demonstration unit directed by **Dr. Arthur V. Williams**; a cooperative program of health care for children and infants with heart disease directed by **Dr. Arno Hohn**; central tumor registry project directed by **Dr. Max Rittenbury** and a statewide cancer radiation therapy program headed by **Dr. Keene Wallace.**

Other statewide projects funded are: health education and recruitment project directed by Herbert Weisberg and sponsored by the S. C. Hospital Association; a cardiopulmonary resuscitation training project sponsored by the S. C. Heart Association and directed by A. F. duHays and a coronary care training unit sponsored by the University of S. C. School of Nursing and directed by Madelon Henderson.

Also, funds have been awarded for a cooperative heart clinic program in Florence sponsored by the S. C. State Board of Health and directed by **Dr. N. B. Baroody**; a heart clinic by the Spartanburg General Hospital and directed by **Dr. J. P. Coan** and a demonstration project in continuing education at a community hospital by the Spartanburg General Hospital under the direction of **Dr. Loren Parmley.**

A continuation of funds for the support of two stroke projects sponsored by the Columbia Hospital which include an acute stroke demonstration project directed by **Dr. R. R. Taylor** and a stroke management project directed by **Dr. Joseph W. Taber, Jr.**; a State Board of Health sponsored cervical cancer screening project in Darlington, Florence and Marlboro counties under the direction of **Dr. Cyril B. Rush**; a gastrointestinal cancer detection clinic sponsored by the Columbia Hospital and directed by **Dr. A. H. Madden** are components of this award. Also, included are funds for staff operations and development of new projects.

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358, second year $12,496 and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, P. O. Box 119, Columbia, South Carolina 29202.

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THE PHARMACOLOGICAL BASIS OF THERAPEUTICS
3rd Edition, page 522



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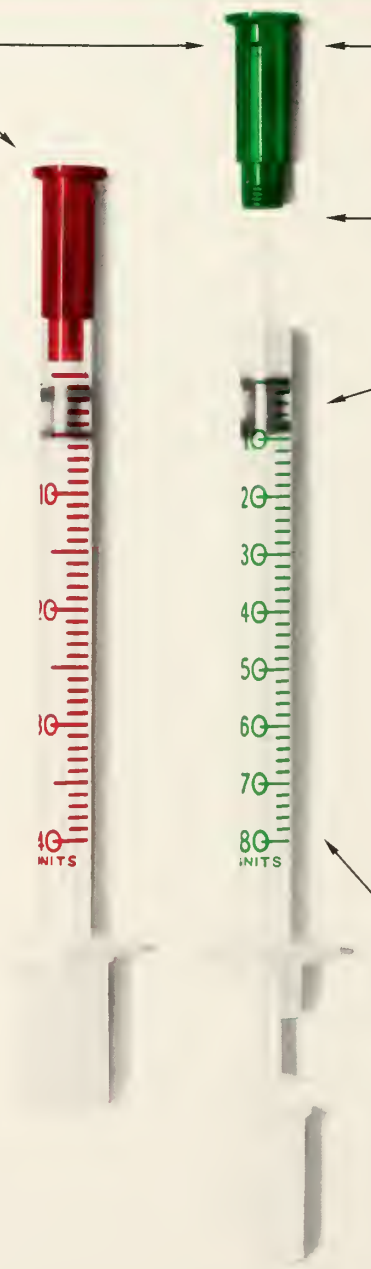
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Book Review



CARDIOVASCULAR DYNAMICS by Robert F. Rushmer, M.D. 3rd Edition. W. B. Saunders Company, Philadelphia. 1970. Pp. 559. $18.50.

The author has presented the components of the cardiovascular system in terms of their structure, function and control under normal conditions and under common disease states. The figures, illustrations, graphs and tables are clear, meaningful and well selected. This edition has been improved over the second edition by the addition of clinical material rendering it more useful to the clinical cardiologist. It should not be considered as a handbook for the practice of cardiology. The text is excellent for students and experienced cardiologists, but has very limited value for the practicing physician.

Peter C. Gazes, M.D.

TREATMENT OF PYELONEPHRITIS, Modern Treatment), Volume 7, Number 2, March 1970. Harper & Row, New York. $16.00 per year.

In the foreword, the editor points out that in the diagnosis and treatment of chronic pyelonephritis, we are dealing with a problem about which there is inadequate and incomplete information. This theme is repeated throughout the symposium, but the authors' aim of providing a guide for rational treatment in light of our present knowledge is satisfactorily met.

The sections on diagnosis, bacteriology, antibiotics and medical management are well written and concise. The section on use of antibiotics in renal insufficiency is of particular value. The problems associated with the catheter and urinary tract instrumentation are treated more fairly than is often the case.

If there is a weakness in the entire presentation, it is the failure of the authors to emphasize enough the importance of urological evaluation and appropriate urological surgery in the management of these patients.

All in all, the volume contains enough good information on the short and long term management of chronic pyelonephritis to make it a valuable addition to the practicing physician's library.

Thomas A. Kirkland, Jr., M.D.

DEVOTIONALS BY A PHYSICIAN, by Claude A. Frazier, M. D. Charles C. Thomas, Publisher, Springfield, Illinois. 1970. Pp. 221.

The author, a well-known allergist, has written this book in his capacity as a Baptist teacher and lay theologian.

There are 64 devotionals, averaging about three pages in length, grouped in sections having a common subject. The first of these sections, on the Gospel of John, suffers a bit in comparison with the other sections because of the familiarity of the verses covered, but aside from this, the book seems uniformly well done. The writing is clear and straightforward throughout, and the author stays close to the scripture, only pausing for brief paragraphs in which he applies his discussion to present day life. This book should be quite useful either for daily devotions or as an introduction to further Biblical study.

David H. Fuller, M. D.

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DEATHS

DR. SAM MORGAN KING

Dr. Sam Morgan King, 45, died September 26 in a Greenville hospital. Dr. King was a graduate of the University of Miami and earned his medical degree from the Medical University of South Carolina. After a residency in obstetrics and gynecology at the Greenville General Hospital, Dr. King began private practice in Greenville. He was a founding Fellow of the South Carolina Obstetrical and Gynecological Association.

DR. CARL A. SWEATMAN

Dr. Carl A. Sweatman, 58, a Columbia surgeon, died October 5 at a local hospital. Dr. Sweatman was a graduate of the Medical University of South Carolina, served his internship at Columbia Hospital and was a surgery resident at Baptist Hospital. He was a member of the Southeastern Surgical Society, the American Proctological Society, the American Society of Abdominal Surgeons, the American Medical Association, the Columbia Medical Society, and the South Carolina Medical Association.

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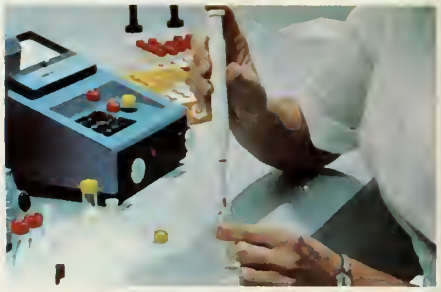
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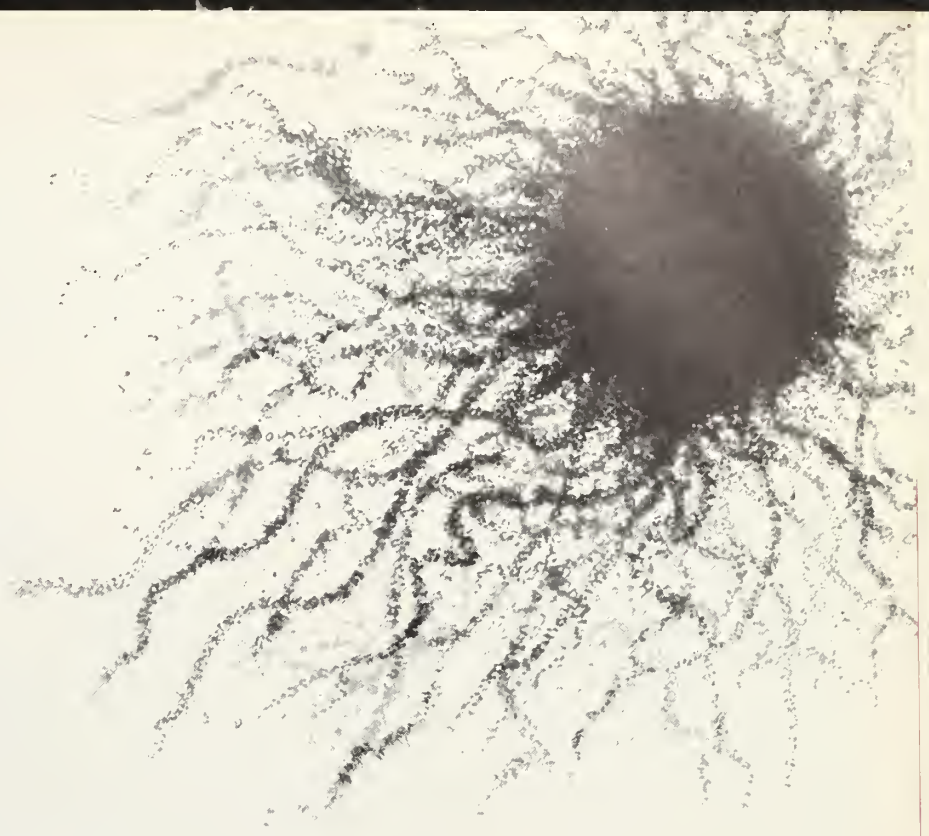
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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, corefully consider individual pharmocologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug ond oral anticoagulants; causol relationship has not been estoblished clinically.

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ME 66 DECEMBER, 1970 NUMBER 12





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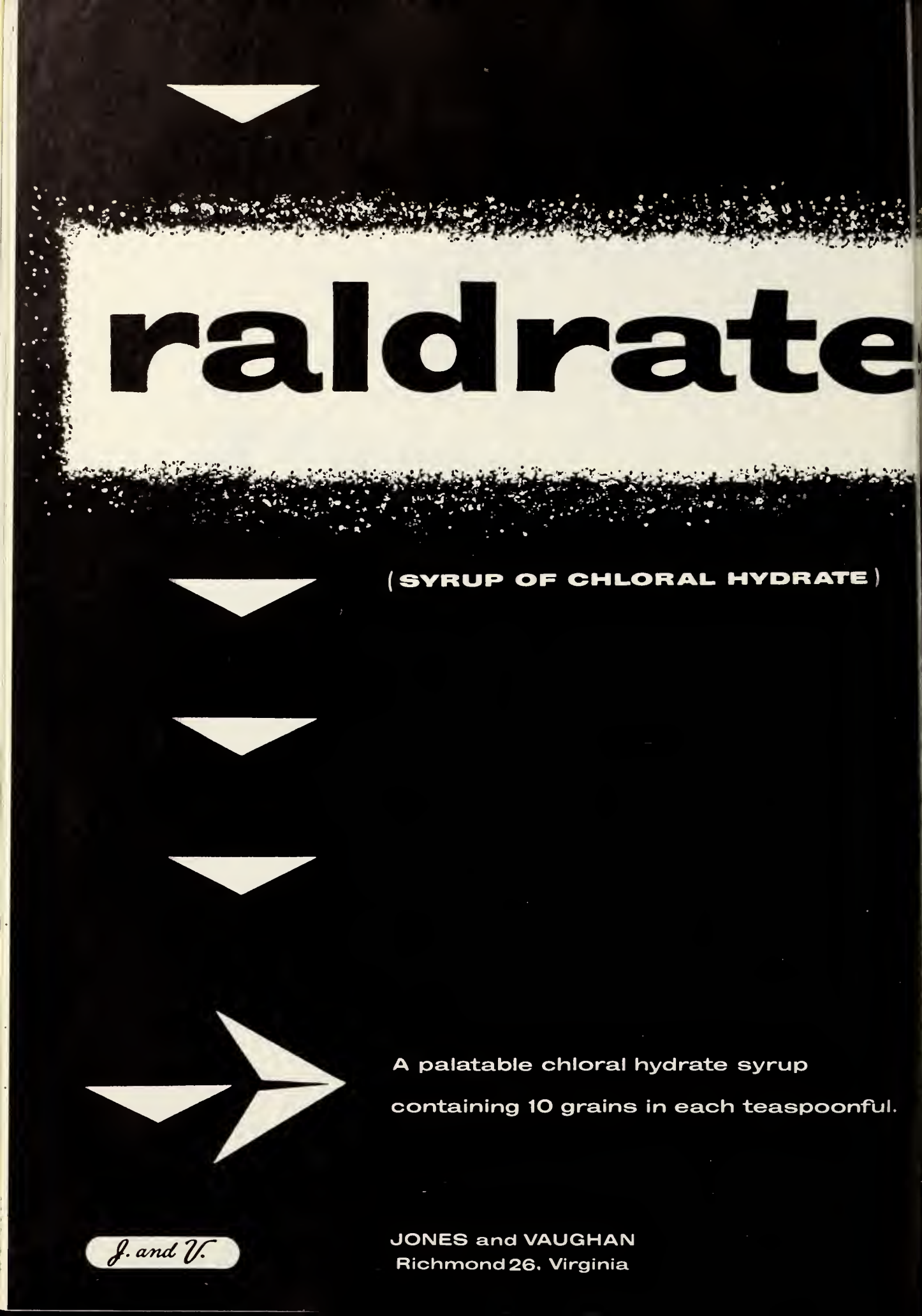
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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

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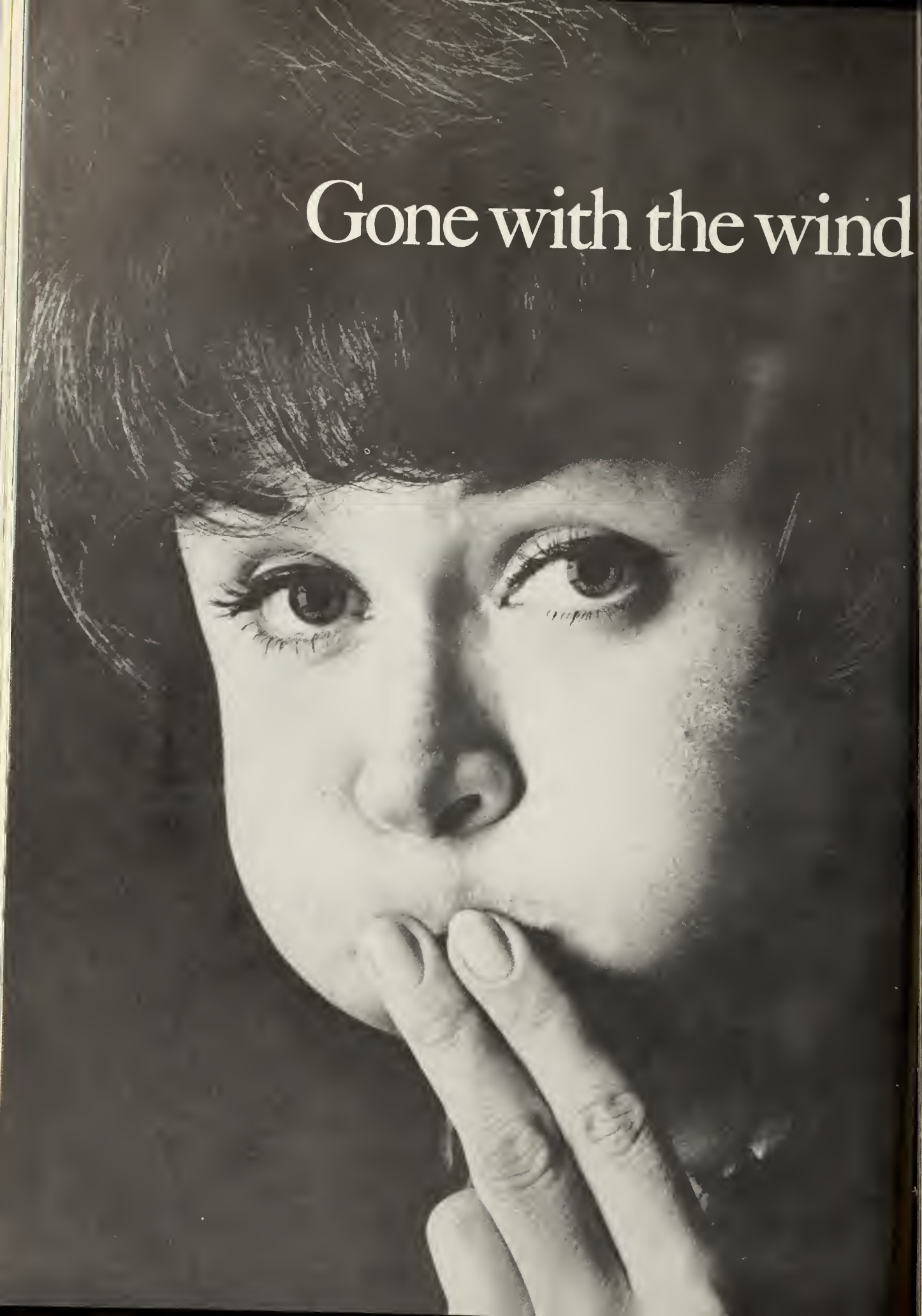
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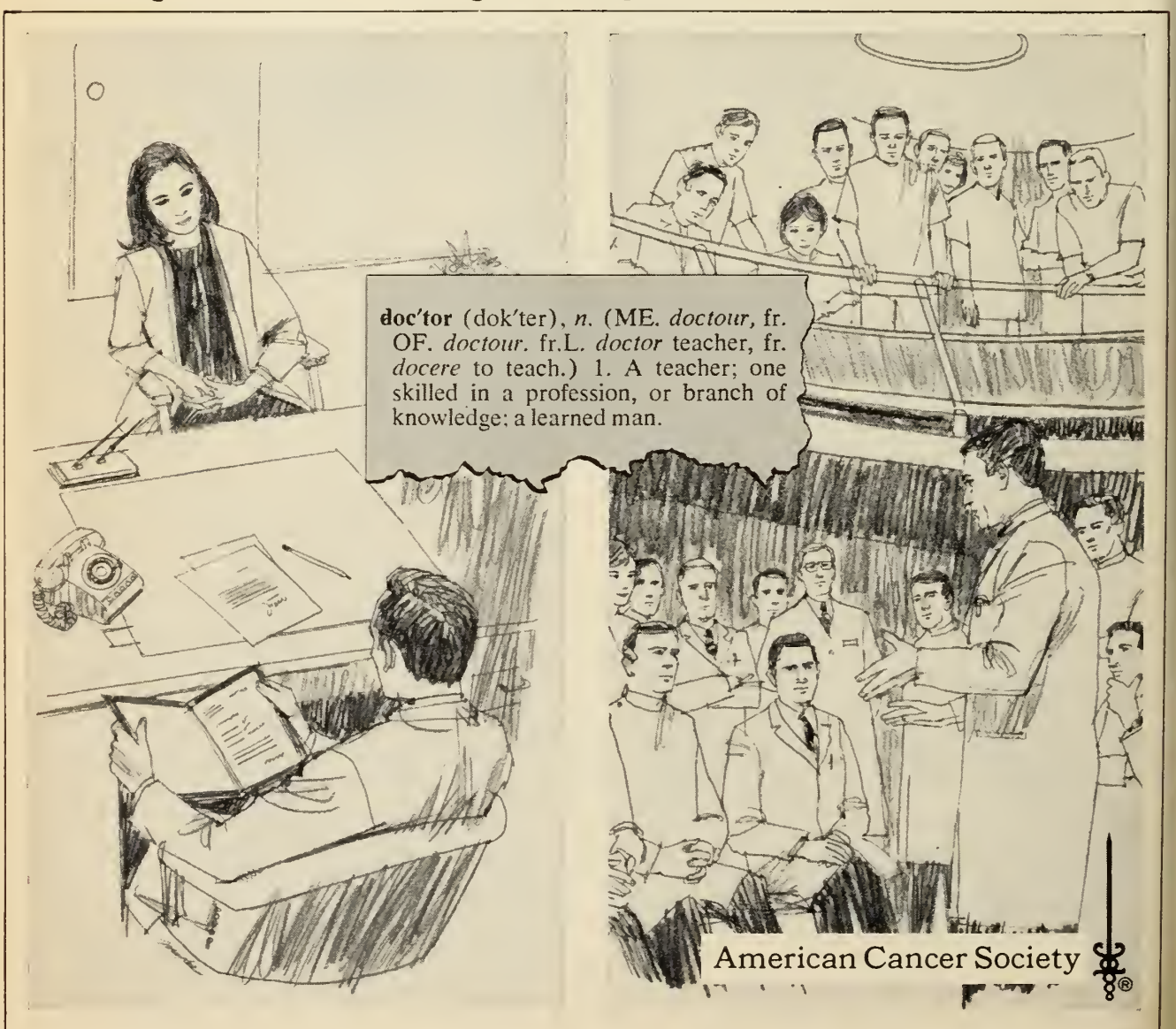
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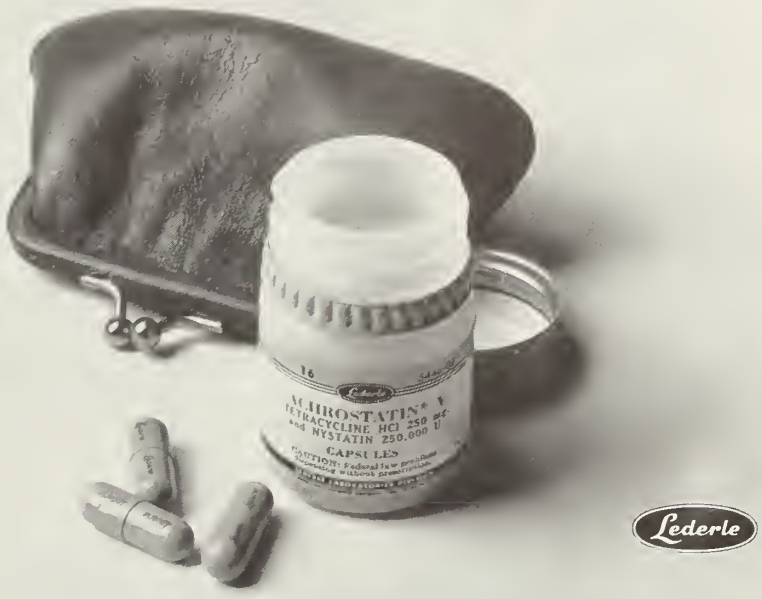
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HEPATIC LOBECTOMY IN THE MANAGEMENT OF LIVER INJURIES

DABNEY R. YARBROUGH, III, M. D.
Charleston, South Carolina

Introduction

Since the first reported case of arrest of hemorrhage from a liver wound by Buckhart in 1887,[1] the management of major injuries of the liver has become a matter of increasing interest and concern. Prior to World War II major liver injuries were fatal in the majority of cases. A mortality rate of 66.3 per cent was World War I;[6] until fairly recently, most reported series of cases indicated a mortality rate in excess of 60 per cent for wounds of the liver.

The principal operative mode of treatment for major liver injuries prior to recent years consisted of temporary arrest of hemorrhage by the Pringle maneuver (manual compression of the portal vein and hepatic artery), packing of the wound in the liver and removal of the pack 10 to 14 days later. Utilizing these principles, the mortality rate for major injuries of the liver, although somewhat reduced, continued high. Secondary hemorrhage after removal of the pack and sepsis associated with the use of pack were the most common causes of death.[3] A further small reduction in mortality rate was obtained with the advent of safe methods of blood replacement and better knowledge of the physiology and treatment of shock.

Significant reductions in the mortality rate of major liver injuries, however, were not obtained until World War II when the valuable principles of debridement of damaged liver tissue, drainage of the wound site, the use of antibiotics and adequate blood replacement and hepatic resection were adequately appreciated and utilized. A reduction in mortality rate from 66.3 per cent during World War I to 27.0 per cent during World War II[5] was obtained using these principles.

During recent years the importance of resection of large segments of injured liver tissue has become more widely recognized as an improvement in the methods of operative treatment and has been more widely utilized. Presently mortality rates for major hepatic injuries range from 7.2 per cent[5] to 10 per cent.[4] The principal innovation during the latter period of mortality reduction has been the development of good surgical techniques and their utilization for major hepatic resections.

Recent experience with two patients with severe liver injuries who required major hepatic resections for control of hemorrhage has prompted this review of cases and summary of pertinent literature.

Case Reports

Case 1: J. C., a 30-year-old male, sustained significant facial and blunt abdominal trauma in an automobile accident approximately one hour prior to admission to hospital. At the time of admission blood

pressure was unobtainable. There were extensive facial fractures. The patient's abdomen was generally tender and diagnostic abdominal tap revealed free blood. After initial transfusion the patient was taken immediately to surgery where exploratory laparotomy was performed. At exploration a large stellate fracture of the right lobe of the liver was encountered. There was approximately 4,000 ml of blood in the peritoneal cavity. The exploratory midline abdominal incision was extended into the right chest as a thoraco-abdominal incision and an extended right hepatic lobectomy with T-tube drainage of the common bile duct was carried out. During operation a total of 10,000 ml of blood was administered. The facial fractures were repaired at a later date. The post-operative course of the patient was relatively uncomplicated with the exception of prolonged drainage of bile from the abdominal drain site. The patient was discharged on the 41st post-operative day. The patient has done well on 3-year followup and is currently employed full time in his previous occupation (tractor driver). Liver scans performed during the post-operative period have revealed essentially complete regeneration of the right lobe of the liver.

Comments: In view of the extensive stellate laceration of the right lobe of the liver encountered in this patient, extended right hepatic lobectomy was the only feasible method of treatment. More conservative surgical management would probably have resulted in a fatal outcome. Fortunately, the injury was limited to the right lobe of the liver and the medial segment of the left lobe. Thus, anatomic resection of these portions of the liver was feasible leaving a relatively normal lateral segment of the left lobe of the liver.

Case 2: C. W., a 25-year-old colored male, sustained a close range shotgun blast to the right lower thorax and right upper quadrant of the abdomen approximately 30 minutes prior to admission to hospital. Initial examination revealed unobtainable blood pressure. There was a massive soft-tissue injury involving the right lower chest and right abdomen. The patient was taken immediately to surgery where exploration was performed through a right paramedian incision. Massive injury to the right lobe of the liver, hepatic flexure of the colon and right kidney were noted. There was approximately 2,000 ml of blood in the peritoneal cavity. The incision was extended into the right hemithorax and a right hepatic lobectomy was carried out with T-tube drainage of the common bile duct. In addition, right hemicolectomy and right nephrectomy were performed. A total of 7,500 ml of blood was administered during the procedure. The patient's post-operative course was complicated by an extensive, but superficial, wound infection. The patient was discharged on the 49th post-operative day. On followup approximately three years after injury the patient has returned fulltime to his former employment and is leading a normal life. Liver function studies are entirely within normal limits and liver scan reveals essentially complete regeneration of the right lobe of the liver.

Comments: As in Case 1, the extensive injury to the right lobe of the liver essentially precluded the success of any other form of treatment. Extended right hepatic lobectomy appeared to be the only feasible method of arrest of hemorrhage and removal of necrotic liver tissue.

Discussion

The general principles of the management of major hepatic wounds are now well accepted by most surgeons. They do not differ significantly from the principles important in the management of any major soft-tissue injury. Inadequate knowledge of operative technique and the surgical anatomy of the liver, however, has been responsible for an overly conservative approach to these injuries in the past. The important principles are control of hemorrhage, debridement of necrotic tissue, and drainage of the wound site.[2] As is well known, control of major hepatic hemorrhage is extremely difficult, or impossible, when the proper anatomic approach to the liver injury is not utilized.

The arterial blood supply of the liver is derived from the common hepatic branch of the celiac artery which courses to the liver through the hepatoduodenal ligament. In most instances, the common hepatic artery bifurcates into right and left hepatic arteries approximately 1 cm external to the hilum of the liver. Within the liver, the right hepatic artery supplies the right lobe and terminates by division into an anterior and posterior segmental branch. The left hepatic artery supplies the medial and lateral segments of the left lobe of the liver. The anatomic separation of the right and left lobes of the liver based on the arterial supply described above corresponds roughly to a saggital section through the liver extending from the fossa of the gall bladder inferiorly to the inferior vena cava superiorly. (Figure 1)

The portal vein corresponds roughly in its anatomic distribution to the branches of the hepatic artery. At the hilum of the liver, the portal vein divides into right and left branches which supply the right and left lobes of the liver respectively. The right and left hepatic

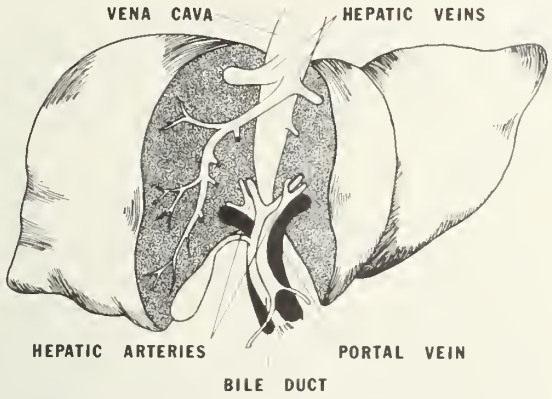


Figure 1: Diagramatic representation of the proper plane for hepatic lobectomy.

branches of the common bile duct follow a similar distribution.

Venous drainage of the liver occurs via the hepatic veins which drain posteriorly into the vena cava. The most consistent anatomic distribution consists of drainage by three hepatic veins: the right, middle, and the left hepatic. The right hepatic vein drains the posterior segment of the right lobe together with a major portion of the superior aspect of the anterior segment of the right lobe. The middle hepatic vein drains the inferior aspect of the anterior segment of the right lobe as well as portions of the medial segment of the left lobe of the liver. The left hepatic vein drains the left hepatic lobe and portions of the medial segment of the left lobe of the liver. Frequently, the left and middle hepatic veins may form a common trunk prior to entrance into the vena cava. This common anomaly must be recognized during the performance of extended right hepatic lobectomy including the medial segment of the left lobe of the liver.

The surgical procedure of hepatic lobectomy, either left or right, is predicated on a thorough knowledge of the surgical anatomy of the liver as outlined above. Anomalies of the blood supply to the liver are frequent and the surgeon must be familiar with these anomalies in order to manage them properly. For example, in Case 1 described above, the right hepatic artery arose as a single branch from the superior mesenteric artery rather than from the common hepatic artery. This anomaly has been noted in as many as 23 per cent[2] of cases and consequently must be recognized and dealt with when encountered at surgery.

The operative technique of right or left hepatic lobectomy consists of initial arrest of hemorrhage from the injury by manual compression of the bleeding tissue, temporary packing or temporary occlusion of the vessels at the hilum of the liver (Pringle's maneuver). The structures at the hilum of the liver are then rapidly identified, isolated, and the branches to the lobe to be resected are divided and ligated.

If the initial incision has been the usual upper midline or paramedian type, it must then be extended into the chest through the eighth or ninth interspace and the diaphragm opened, converting the incision into a thoracoabdominal type. Attention is then turned to control of the venous drainage of the liver via the hepatic veins posteriorly. The lobe of the liver to be resected is reflected anteriorly and the hepatic veins draining the involved lobe are identified, divided and ligated posteriorly. This is usually the most difficult portion of the procedure as these venous trunks are frequently quite large and very short. The plane of resection for right hepatic lobectomy is then taken on a line extending from the fossa of the gall bladder inferiorly to the vena cava superiorly. The liver tissue is divided bluntly along this line utilizing the finger fracture technique or the blunt handle of a scalpel. Vessels and ducts encountered are best controlled by clipping with metal clips and dividing. In some instances, depending on the exact nature of the injury, ligation of the hepatic veins is best deferred until this stage in the procedure is reached.

After resection of the involved lobe of the liver, the falciform ligament can usually be reflected and sutured over the raw, exposed liver section. Extensive drainage via Penrose and sump drains, as well as drainage of the common bile duct with a T-tube, must be carried out.

Post-Operative Care

The most commonly encountered problems in the post-operative period consist of in-

fection, hypoglycemia, and hypoalbuminemia.

Administration of prophylactic antibiotics during the post-operative period and maintenance of adequate drainage of the subphrenic space are the most useful measures to prevent infection in the area of operation. Hypertonic glucose solutions (10 or 20 per cent dextrose and water) should be administered for the first five to seven post-operative days. The administration of glucose intravenously should be continued on a daily basis until the patient is able to resume a full oral intake. At that point, oral intake should be supplemented by a high carbohydrate diet.

The serum albumin level should be monitored daily during the post-operative period. Twenty-five to fifty grams of albumin intravenously may be required each day in order to maintain the serum albumin at or near normal levels.

Other principles of post-operative care do not differ significantly from those involved in the care of any severely injured patient. Clotting deficiencies are not ordinarily encountered during the post-operative period. When this complication does arise, it is more frequently related to massive blood transfusions than to resection of portions of the liver. It is probably wise, however, routinely to administer Vitamin K parenterally for the first five to seven post-operative days. The most common clotting deficiencies seen are consumptive coagulopathies and platelet deficiences.

Summary

Advances in pre- and post-operative care of the severely injured patient, together with refinements in the understanding of the surgical anatomy of the liver and in the application of operative techniques for major hepatic resection based on this knowledge, have resulted in a marked decline in the mortality rate from major hepatic injuries. In the light of present knowledge, the older principles of packing of major injuries of the liver should be abandoned in favor of resection of bleeding and necrotic liver tissue except in rare instances. The occasional case will continue to be encountered in which the nature of the injury does not lend itself to the above principles; in these cases packing of liver injuries may still rarely be required for control of hemorrhage. The mortality rate for injuries treated in this fashion, however, continues to be extremely high. Consequently, before this course of action is decided upon the surgeon must be absolutely certain that hepatic resection is either unnecessary or not feasible.

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CAROTID SINUS REFLEXES

(Isolated Vasodepressor Response)

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The earliest medical report concerning the carotid sinus reflex was that by Perry in 1799 describing dizziness and slowing of the heart rate following pressure applied at the bifurcation of the eommon carotid artery. That the Greeks may have been aware of a similar phenomenon comes from the word "karos", which in Greek means heavy sleep. For many years the syndrome was felt to be due to pressure on the vagus nerve, but it was the painstaking work of Hering in the early 1920's that brought general recognition of the reflex nature of earotid sinus stimulation. Wasserman made the first observation that carotid sinus pressure could terminate acute pulmonary edema and abate angina. In a classical article published in September, 1933, Weiss and Baker described three types of responses (other than no reaction at all) to carotid sinus pressure: 1. A cardioinhibitor reflex consisting of prolonged ventricular asystole due either to eomplete AV bloek or sinoatrial standstill without prompt ventricular escape, whieh could be prevented by atropine or epinephrine.
2. A vasodepressor reflex occurring independent of changes in the heart rate and resulting in generalized vasodilatation with a fall in blood pressure, whieh eould be prevented by epinephrine or other sympathomimetic agents.
3. A "cerebral" reflex presumed to be due to vasoconstriction of cerebral blood vessels without changes in the heart rate or blood pressure, and not prevented by atropine or epinephrine. In an extensive review, Lown and Levine stated that they had never observed the "eerebral" type, which may be explained instead by carotid artery occlusive disease.

The reflex slowing of the heart rate by carotid sinus pressure has been found useful in the interpretation of various types of arrhythmias. It is well documented that angina ean be ameliorated by carotid sinus pressure and in the experience of investigators, this relief has almost invariably been associated with a slowing of the heart rate. Improvement in pulmonary edema has likewise been observed; this being related to both the development of bradycardia and a fall in systemic blood pressure. With slowing of the rate, LBBB may be replaced by normal interventrieular conduction, thus clarifying electrocardiographic problems such as an otherwise undetected myocardial infarction. It has been demonstrated that stimulation of the vagus may change LBBB to normal intraventricular conduetion without a deerease in heart rate.

It is obvious to those in clinical practice that a so-called "hypersensitive state" of the earotid sinus reflex does exist. The majority of sueh individuals have atherosclerotic disease but this relationship is also noted in other disease processes sueh as disease of the gallbladder and in conditions where jaundice is present. The "hypersensitive state" produced by digitalis, particularly the cardioinhibitory type is familiar to all practicing physicians and may be of some usefulness in evaluating digitalization.

While the majority do respond in the eardioinhibitory manner, it has been doeumented that the vasodepressor response does oeeur alone in the range of 5 per cent of those with the "hypersensitive state." Of course, the eombination or mixture of these two does occur. Anything that produces an inereased pressure on the carotid sinus such

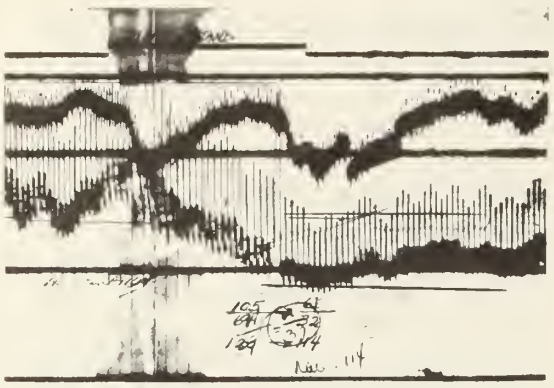


FIGURE I

The above demonstrates a significant fall in blood pressure with development of symptoms the patient had previously experienced. Note that there is no change in the pulse rate.

as a tight collar, shaving, turning the head, straining at stool, coughing, etc., may stimulate the carotid sinus reflex during this "hypersensitive state." The so-called "hypersensitive state" is felt to be an explanation for the vague symptomatology described by some patients and characterized as "vegetative neuroses."

Variation in response to carotid sinus pressure and its relation to other bodily factors has been observed. The state of nutrition, presence of menopause, and the emotional state of an individual may influence this greatly.

Below is reported a case in which the emotional state of the individual was felt to play a significant role in his reaction to carotid sinus massage.

This case is felt to be unusual in view of the rarity in which the isolated vasodepressor response to carotid sinus pressure is observed.

Case History

This 45 year old white married male dentist was seen in consultation because of weak spells and syncopal episodes. He had been admitted to the surgical service for consideration of abdominal exploration for a possible islet cell adenoma. His referring physician had discovered a fasting blood sugar level of 66.

The patient gave a history, at the time of consultation, of similar episodes several years previously while in the armed services. These had been characterized by spells of weakness, tremulousness and nervousness, but at that time he did not recall that he had actually lost consciousness. Pertinent is the fact that during this time of his life he was in the throes of divorce proceedings with his first wife. Studies apparently had been done and he was told that he was hypoglycemic. The above symptoms cleared and he did well over a period of five or six years.

The above symptoms recurred, were essentially the same character, and were correlated on this occasion with problems of alimony payments to his first wife whom he had divorced. He had married for the second time.

Past history revealed a duodenal ulcer some four years previously which had cleared on medical management. He had had no significant operations and the remainder of his past history and review of systems was unremarkable.

When seen in consultation, an examination revealed a well developed, well nourished, white male who appeared quite anxious. His blood pressure sitting was 118/70 bilaterally. Pulse was 100 and regular. The remainder of his examination was entirely negative. Routine laboratory work was all normal as was a chest film and electrocardiogram. An upper GI series revealed a scarred duodenal bulb but no evidence of any active ulcer crater.

A glucose tolerance test showed a fasting level of 77 mg/100 ml; with one half hour 234 mg/100 ml; 2 hour 81 mg/100 ml; 3 hour 39 mg/100 ml; 4 hour 53 mg/100 ml; and 5 hour 68 mg/ml. The patient had no symptoms during this procedure and all urines were negative for sugar. A repeat glucose tolerance test was done two days following a high carbohydrate diet with the values in the same range and within normal limits as the initial test.

During this hospitalization a stat blood sugar was taken during one of his "spells" and was found to be

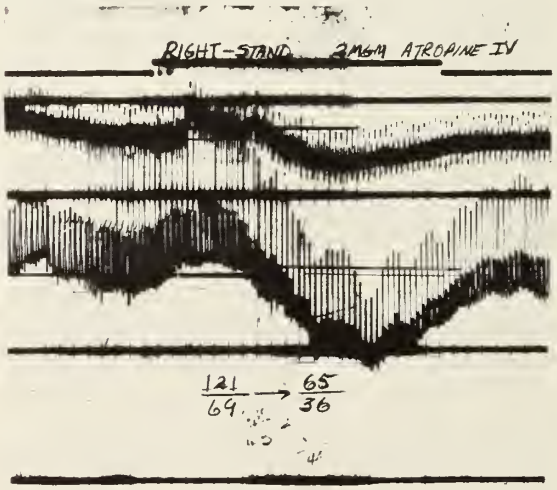


FIGURE II

The above demonstrates a reproduction of the patient's symptoms on carotid sinus pressure, again with a fall in his blood pressure. As noted the reflex was not blocked by 2 mg of atropine intravenously given about two minutes before right carotid sinus massage.

108 mg/100 ml. The patient experienced another episode in which he apparently lost consciousness, bit his tongue and had urinary incontinence and on this occasion his blood sugar was 144 mg/100 ml. There were no pertinent observations made at that time regarding his blood pressure or pulse. Neurological survey, including electroencephalogram and skull films was done and was negative.

Prior to the above episode a right radial arterial puncture was performed and the response to blood pressure and pulse were recorded in the routine manner to carotid sinus pressure. Reference is made to Figure I and Figure II. His symptoms were reduplicated precisely.

The patient was consequently discharged with the recommendation to take Ephedrine 25 mg three times daily. It was learned from his family physician that he did well and discontinued medications after several months without any further difficulty. It was understood that he had settled his problems regarding his first wife's alimony payments and seemed to be quite content with his second marriage.

The patient was visited in his home town on several occasions by this consultant after he had been discharged from the hospital and after discontinuing the Ephedrine. Carotid sinus pressure was applied on several occasions with the patient demonstrating absolutely no symptoms whatsoever to suggest any fall in blood pressure or any development of any significant bradycardia.

Several years later, however, he apparently committed suicide with chloral hydrate and it was understood from his family physician that he and his second wife had separated, but further details were not known. No autopsy was obtained.

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THE SOUTH CAROLINA MEDICAL EXAMINERS SYSTEM*

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GORDON R. HENNIGAR, M.D.***

The coroner was originally the King's "Crowner" in 11th century England and was charged with the responsibility of tending the King's Crown. At or about this time, the office of the Sheriff was established, whereupon the "Crowner" became the coroner, whose duty it was to closely scrutinize the sheriff's activities on behalf of the King. This came to be a position of real import, but it was not until the "adoption" of the Common Law by the new colonies in America that the coroner achieved the full bloom of status and responsibility. Here he was charged with "making sufficient inquiry into the motives and causes of death by misdeed, accident, or unusual circumstances" and was provided the necessary powers to perform these duties.

In the State of South Carolina, this authority, which is still in effect, was granted formally by the Constitutions of 1868 and of 1895. The Constitution provides for election of the coroner with no conditions applied to his qualifications. Under statutory law, the coroner's authority was further extended so that today he can call juries for inquests, admit witnesses to bail, summon witnesses and examine them in regard to the inquest, can issue warrants for arrest, can order contempt of court and punish by incarceration for 24 hours, decide whether or not to send a case for Grand Jury action if there is no inquest and potentially decides how any South Carolina citizen came to his death, that is whether by natural cause, by his own hand, from an act of God, or from mischance without blame on the part of another person. This is an awesome responsibility for any person whose sole qualifications are: 1) resident of a county, and 2) eligible to vote.

Many professionals and interested lay persons believe "the coroner is an anachronism and has no place in a modern technicologically advanced society." Consequently, 35 states have abolished the coroners system and have totally, by state or partially by county, adopted a Medical Examiners system; two other states require the coroner to be a physician. Only 13 states, including South Carolina, still retain the services of lay persons to evaluate death; for this reason South Carolina has been categorized as one of the "best states for murder."

The coroners system persists just as it did 300 years ago in spite of the efforts of a small group of South Carolina citizens who have attempted during the past 20 years to bring a professional approach to the evaluation of death in South Carolina. These citizens succeeded in having a modified medical exam-

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iners plan introduced into the South Carolina Legislature during its 1966 session. However, the Bill died in committee, reportedly because of the $400,000 to $500,000 price tag which included the cost for the construction of permanent buildings and personnel to initiate the program. A modified bill has been formulated by an expanded committee representing the medical association, bar association, State Health Department, lay persons and with advice from the law enforcement divisions of the State. The present proposal provides for the utilization of existing facilities without any new construction. The Bill provides for a Commission of eight members, four of whom will be appointed by the Governor for staggered terms, and by virtue of his office, the following shall serve: Chief of SLED, Dean of the Law School, the State Health Officer, and Chief of Pathology Department, Medical University of South Carolina. This Commission, in turn, is charged with selecting a physician who has four years of resident training in anatomical and forensic pathology beyond his medical school study as Chief Medical Examiner to administer and function as its working force. He will personally perform one-third to one-half of all of the projected 700 to 750 autopsies which will be performed annually, will supervise the remaining autopsies and will make the decision regarding the need for autopsies in all cases. The proposed legislation calls for Deputy Medical Examiners who also are physicians who have training in forensic pathology and who will ultimately be placed in geographically strategic locations throughout the State to perform autopsies in that region. At the present time, no need for Deputy Medical Examiners is anticipated.

On the county level, the coroner will continue to function in his present capacity. However, to assist him will be local physicians who have indicated an interest in field investigation of the dead and who have been selected by the Chief Medical Examiner to assist the coroner in his evaluation. The investigating physician is to first ascertain whether death has actually occurred and then is to evaluate the death medically in conjunction with the death scene and to coordinate with the coroner and investigating officials in ascertaining the cause and manner of death. At the present time the coroner receives no official medical assistance for his investigation. In most instances, blood will be drawn by the physician for the purpose of routine toxicological evaluation. If either the coroner or physician or both of these officials decide that an autopsy is required, one of them shall make a request of the Chief Medical Examiner for an autopsy which shall be allowed or denied. Whereupon, the Chief Medical Examiner will proceed with the autopsy personally if one is indicated, or will consult with the Regional Hospital Pathologist who shall perform the autopsy under the guidance of the Chief Medical Examiner, who may require that special toxicological and/or tissue study be made in a given case. In certain instances, the Chief Medical Examiner may travel to a locality to perform the autopsy himself or have the body shipped to his central office for the autopsy to be performed there. If the Regional Pathologist performs the autopsy, upon the conclusion of the autopsy, he again consults with the Chief Medical Examiner in regard to his findings; he also advises the coroner of the results of the autopsy. The final autopsy report is sent to the Chief Medical Examiner for his evaluation and approval. If the coroner and physician conclude that no autopsy is required, their report is jointly filed with the office of the Chief Medical Examiner where is stated in complete detail the cause of death and the disposition of the case. In this way, a uniform system of evaluating the dead is applied to every suspicious case which occurs in South Carolina, thereby minimizing local prejudices and indifference, local socio-economic conditions, and financial restrictions.

Some concern has been expressed in regard to the problem of obtaining the assistance of local physicians to attend the dead when it is difficult for them to find sufficient time to attend the living. However, in presenting seminars on forensic medicine to the medical student, it is a consistent finding that a high percentage of them show an intense interest

in this area of medicine and have expressed their eagerness to participate in medical-legal investigation when they return to their local communities. Also other states, specifically including North Carolina, have had no difficulty in filling the available slots for medical investigators on the local scene. Of course, initially, positions will necessarily be filled by physicians presently engaged in active practice. These physicians will receive several days of intense training at the Medical University prior to undertaking their duties and also will have the benefit of continuing education in the form of periodic seminars and literature from the office of the Medical Examiner. Actually, the workload of the local physician who is investigating the death scene with the Coroner will be very light because there will be an average of only 2 investigations per county per week, based on 5,000 projected investigations for the state.

Funding will be on a state level and will be budgeted annually with an anticipated cost of $150,000 per year. The Chief Medical Examiner and his staff are to be paid out of this fund. The Regional Hospital Pathologists and medical investigators are to be paid on a per case basis from this fund. The coroner will continue to be paid as he has in the past out of county funds. The central funding is an integral part of the system because it abolishes the budgetary restrictions that are presently placed on the coroner. Deaths occur regularly wherein the coroner desires an autopsy to confirm his suspicions; however, since the county government has necessarily provided him with a limited amount of money with which to operate, he is unable to have an autopsy performed. This sad state of affairs is corrected by this proposed system. The $150,000 is sufficient to evaluate properly the 700 projected autopsy cases and the 4,500 to 5,000 investigations of the scene. This cost is a realistic one and a significant increase is not anticipated by comparison with the Virginia Medical Examiners system which has been in operation for 21 years, utilizes five full time physicians and forensic pathologists on its staff, serves a population twice that of South Carolina, and operates its forensic department at a cost of under $400,000. Therefore, by analogy the price tag of $150,000 is a stable and reasonable figure.

The coroner will continue with his present responsibilities and duties and his office, of course, remains constitutional. In fact, the Bill does not mention the coroner by name, and by inference confirms the authority which he presently has; therefore, by its very nature, the intent of the legislation is to supplement and assist the coroner in his duties and not in any way to obstruct his present constitutional authority. The coroner, more than any other state official, stands to gain from the Medical Examiners system because, not only does the forensic pathologist provide him with a professional buffer against society, but also the coroner is provided with specialized tissue and blood studies which will be systematically and uniformly available. It seems paradoxical that the coroner, through the years, often has been the recipient of criticism for malfunction of the coroners system whereas, in fact, it is not the coroner who has failed society, but it is society which has failed to insist upon an improved system under which the coroner can operate.

The success of the statewide system can be optimistically projected due to its success throughout the nation, but even more specifically due to the successful example presently utilized in Charleston County where a modified Medical Examiners system has, in fact although not in law, been in operation for the past several years. Resident physicians under direct control of a forensic pathologist and close supervision of one of us (G.R.H.) are on call 24 hours per day to visit the scenes with the coroner and to evaluate the death medically. Based on these findings, a determination is made whether or not an autopsy is necessary. Under this system, in many instances initial suspicions are confirmed at autopsy. In occasional circumstances, that which appeared to be homicide becomes suicide as the result of medical investigation and autopsy, and that which appeared to be homicide results in findings of accidental death, and that which appeared to be accidental results in death by homicide.

However, in each case, the true facts could not be ascertained until the death package was opened and its contents made available for histological and toxicological studies. This system has proved its worth to the citizens of Charleston County.

Unfortunately, these findings are not available throughout most of South Carolina because the records show that the autopsies are just not being performed elsewhere. Therefore, under our present system, our law enforcement officials and solicitors are not receiving the support and assistance to which they are entitled. Approximately 120 autopsies have been performed each year in the past three years in Charleston County. In Greenville County during this same period, approximately 125 forensic autopsies have been performed annually. With a total of approximately 350 forensic autopsies having been performed each year in South Carolina during this period, this leaves a remainder of only 110 autopsies performed throughout the remaining 44 counties! Greenville and Charleston counties represent less than 25 per cent of South Carolina's total population, yet 70 per cent of the forensic autopsies performed in South Carolina are done in these two counties. It is a logical conclusion, therefore, that death is not being evaluated properly in more than 60 per cent of the suspicious deaths that occur in our state. What are the findings in this 60 per cent of our forensic deaths? They are apparently buried forever because like Caesar "the good (and evil) are oft interred with their bones".

Like good physicians, forensic pathologists uncover facts and figures and make diagnoses from their autopsies which are most revealing and beneficial and in some cases definitive because "dead men do tell tales", but only if the pertinent answers are sought among the dead by the professional pathologist as the living are examined by the trained physician:

Item 1. The forensic trainee in Charleston spent 10½ hours actually performing an autopsy on the victim of a shooting; he was subjected to 3½ hours on the witness stand at the subsequent trial! As a result of his exhaustive study he was able to show that it was a mechanical impossibility for any of the six bullets to have travelled the pathway as suggested by the defense attorney to sustain the plea of self-defense. Vagueness, distortions and "court room tactics" are minimized under the Medical Examiners system because of the objective evaluation by the trained forensic specialist. The solicitor in Charleston County routinely utilizes these pathologists in the courtroom for his prosecutions just as police officers are routinely used in these trials.

Item 2. The victim died in the Emergency Room of the low-country county of a gunshot wound to the head; the attending surgeon said the wound of entry was in the left temple and the wound of exit was in the right temple, and since the victim was known to be right handed, he could not have shot himself. The police officials undertook an extensive investigation to seek out a possible suspect. Subsequently, an autopsy was requested; after opening and viewing the skull, the forensic pathologist in Charleston could show that the wound of entry was actually on the right and not on the left and that the wound of exit was on the left, and that the gunshot wound was self-inflicted. What might have been a long drawn out, fruitless investigation was terminated as the result of findings in the autopsy room. The forensic pathologist is trained as a specialist and has unique methods to assist in his evaluation just as a surgeon is specially trained to perform operations that no other physician can perform as well.

Item 3. In another county, a coroner did not order an autopsy under the circumstances of the suspicious and mysterious death. The sheriff stated that he wanted an autopsy, but could not prevail upon the coroner to have one performed; an autopsy was ordered several days later by the coroner only after a physician refused to sign the Death Certificate for the coroner. The autopsy revealed death by strangulation! However, because of the delay in obtaining the autopsy with its significant findings, investigation by the sheriff was also delayed. The accused was subsequently acquitted; the testimony of the general pathologist revealed his lack of knowledge of forensic pathology. In a Medical Examiner state this situation could not have arisen because the body would have been automatically and immediately autopsied by or under the control of a forensic pathologist rather than a general physician or general pathologist.

Item 4. In another county in which there was no hospital based pathologist the forensic pathologist who happened to be visiting in the community heard of a case which aroused his curiosity — as the result of which an autopsy was performed. Microscopic findings revealed to the Neuropathologist that the death should be ruled accidental rather than natural as the case was initially signed out by the attending physician. As the result of this "incidental autopsy" the widow received in excess of $25,000 dollars for the accidental death. Again under the Medical Examiner system this case would have been automatically autopsied because of the sudden death of the victim.

Although the benefits accruing to the widow are incidental to the purposes underlying the Medical Examiner's system, these corollary benefits are real and have a socio-economic impact. These benefits apply not only to the upper income classes but also to the poverty group, most of whom carry accidental insurance policies.

Item 5. In the winter of 1969 two men were found dead in a rooming house with no explanation for their deaths. Approximately 12 hours prior to this discovery, the landlady had been found semi-comatose and was being treated for diabetic coma, although the attending physician was not satisfied with the working diagnosis. Toxicological studies performed by the special chemical laboratory revealed lethal carbon monoxide levels in the deceased. (Subsequent investigation revealed a defective gas furnace as the cause). As a result of these findings the landlady's treatment was altered with a successful recovery. This is one of the many instances in which routine toxicological and special studies have aided in and even been the final determinative in the forensic cases in Charleston. Under the Medical Examiner's system these studies will be routinely available and utilized as in other Medical Examiner's jurisdiction.

The low expenditure required in order to have an effective Medical Examiners system in the state of South Carolina is a small price to pay for a more precise and accurate evaluation of death. It is shameful that in this age of medical and scientific advancement murder still goes undetected because the legal system prevents the utilization of this advanced knowledge. This legislation is especially pertinent at a time when more sophisticated crimes are being committed and when the Supreme Court is restricting the police in their investigations. The system necessarily involves the physicians of this state and it is certain that they will rise to the challenge of the call to assist with the passage of this bill and to aid in its implementation.

This article is a modification of "An Analysis of the South Carolina Medical Examiners System," published in *Carolina Law*, the official publication of the South Carolina Law Enforcement Officers Association.

Biological Significance of Interferon System—S. Baron (National Institute of Infectious Diseases, Bethesda, Md). *Arch Intern Med* 126:84-93 (July) 1970.

The evidence relating the interferon system to the infectious process and also to normal and tumor cell function supports the view that the interferon system is an important component of the body's nonimmune defenses, which are probably the major causes of recovery from already established virus infections. In contrast, the immune defenses may not be essential for recovery but they function to prevent virus spread during infection and to prevent reinfection. The interferon system can serve to limit virus spread through the bloodstream. It can also retard viral oncogenesis by inhibiting intracellular transformation by virus, by retarding multiplication of tumor viruses, and by inhibiting tumors induced by viruses, carcinogens, and unknown causes. Evidence indicates that the interferon system is one of the determinants of virulence of certain viruses. Interferon may be significant during infections with chlamydiae and protozoal parasites. There is little evidence to support the possibility that the interferon system is of any important functional significance in the uninfected cell.

Age Distribution of Cancers Caused by Obstetric X-Rays and Their Relevance to Cancer Latent Periods—A. M. Stewart (8 Keble Rd, Oxford, England) and G. W. Kneale. *Lancet* 2:4-9 (July 4) 1970

A comparison of the age distributions of 5,802 children with spontaneous or idiopathic cancers and 1,045 children who were x-rayed in utero before cancer developed revealed 423 extra x-rayed cases, 20 of which were ascribed to cerebral tumors diagnosed within a few weeks of birth after threatening to obstruct labor. The remaining 403 cases were probably caused by the radiations, and thus had latent periods which corresponded to the age when symptoms developed. These radiogenic cases were evenly distributed between ten diagnostic groups and had latent periods which not only varied with the type of cancer but also implied continuous growth of the tumors from the dates when the x-ray films were first taken. The relevance of these findings to adult cancers is discussed in terms of the gene-selection theory and in relation to the observation that latent periods for childhood and adult leukemias are not significantly different.

President's Pages



Organized medicine and professional legislators are working under the concept that social, welfare, and medical legislation will have high priority in the coming Session of Congress. The American Medical Association is working actively in this area and many innovations have been evident. The Health Insurance Assistance Act of 1970 was reported out of the House Ways and Means Committee in July and has commanded considerable attention by administration as well as by the public.

Organization of state societies into foundations for delivery of medical care has begun and this is locally evident in that the Medical Association of Georgia has formed such a foundation.

The issue of peer review remains in a state of flux. Professional Standards Review Ororganizations (PSRO), proposed by Senator Wallace Bennett (R. Utah) would review services of not only physicians but also institutional providers of care services. The AMA proposes a Professional Review Organization (PRO) which group would limit its function to review of professional activities and responsibilities of physicians (strictly the established peer review concept).

An opportunity arose while traveling in the Scandinavian Countries to study in depth the medical delivery system in Sweden. In mid September I had a morning conference with Mr. Uncas Serner, LLB, Director of Social Research and Planning, Swedish Medical Association (SMA). Mr. Serner had spent several weeks in the United States earlier in the year visiting hospitals, foundations, and physicians. He was very knowledgeable and was able to compare the delivery system in the states to their system in Sweden. I am deeply grateful to Mr. Serner and his excellent staff for furnishing me with information that will be recorded later in this paper.

Following the morning interview with the Legal Counsel of the SMA I visited the Karolinska Hospital and Institute. This is a large modern hospital dedicated to the treatment of the patient and teaching of the medical student. The Medical School was also visited with particular interest in a Research Project on Tumor Cell Biology and Immunology.

All the activities in the field of public health in Sweden (including medical care) are either operated or controlled by public authorities. Public health is under Ministry of Social Affairs, the chief of which is a member of the cabinet.

The main part of the field work of the health and sick care rests with local authorities. The county councils, 25 in number, and the 3 county boroughs (Stockholm, Gothenburg, and Malmo) shall see to it that the sick person receives the hospital care required. The county council districts correspond to the 24 counties, one of which is divided into two districts. Even the management and the responsibility for the outpatient care is under the county councils and the three county boroughs.

The State operates two hospitals both of them university (teaching) hospitals. The State is also the responsible authority for the county medical officers' organization, whereas the county councils and county boroughs are responsible for the services of the local medical officers, the district public health nurses, district midwives, the public dental care etc.

Today there are about 11,000 doctors in Sweden, 10,500 of those in active practice. The main part, about 7,000 doctors, are either employed at the hospitals in different positions or as rural medical officers. 1,200 can be listed as private practitioners. The others are mainly scientists, medical administrators or staff (industrial) medical officers. The Swedish doctor population ratio (based on doctors in active practice) is 1:860. 9,800 of the doctors are members of the Swedish Medical Association, i. e. 90 per cent. During the next few years a considerable increase in the number of doctors is expected in Sweden. In 1960 the admissions per year to the faculty of medicine were about 400. The corresponding figure of today is 956. It is calculated that there will be approximately 16,000 doctors in Sweden in 1975 and approximately 20,000 in 1980. The amount of annually certified foreign doctors in Sweden is estimated to be 95.

The basic medical training in Sweden is 5.5 years. After this, however, you are not allowed to work freely in the medical profession. First you have to serve in public medical care for 21 months. This is called "public service (duty)". This duty includes 6 months of medicine, 6 months of surgery, 3 months of psychiatry and 6 months in outpatient care. After concluded "public service (duty)" you may start your specialist training which will take about 4-5 years depending on which speciality you choose. You can also become a specialist as a "general physician". This training is on a broad scale, i. e. not aimed at any speciality. The period of this training is 3 years. For foreign doctors who want to obtain Swedish legitimation, it is obligatory with a 4 months' course which is theoretical as well as practical. After passed course there is 18 months practice as an assistant physician. Then the Swedish medical legitimation is obtained. Before the specialist training can start, it is also necessary to practice 9 months in public care "public service (duty)".

During the first two years of "public service (duty)" the salary is 4,700 SKr (*) per month. All the amounts are before taxes and at 42.5 hours a week. After two years employment the salary of an assistant physician is 6,200 per month. For an assistant physician who has become competent as a specialist the salary is 7,400 per month.

For a chief assistant physician the salary is 8,100 per month. For a chief physician the salary is 9,600 per month. For a rural medical officer the salary is 8,500 per month.

The National Insurance Act, which came into effect on the 1st of January 1963, combines the most important branches of Swedish social insurance—health and maternity insurance and basic and supplementary pensions—into a single entity. As a result, Sweden now has a unified Social Insurance Scheme under a single administration providing payments for childbirth, illness, disability, old age and death of the breadwinner.

The Swedish Social Insurance Scheme covers all Swedish citizens and foreigners resident in Sweden. Benefits are paid to all, regardless of their occupation. Everyone enjoys a certain minimum protection, and gainfully occupied insured persons are also guaranteed payments graduated according to the size of their incomes. The people are insured automatically, and in general the insurance is compulsory. Persons owning their own businesses or practicing a free profession can, however, if they make special applications, be exempt from the types of insurance granting benefits graduated according to income.

* Krona - 1 SKr = 20ç.



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Many people lose interest in food as they grow older. Some of them are fussy eaters—with only a few favorite foods. Others become indifferent to foods—because planning and preparing meals becomes a chore. Here Campbell's Soups can help —for these four very good reasons:

Appeal With a variety of tastes, textures, aromas, and colors, Campbell's Soups can add interest and appetite appeal. And they're easy to eat—ingredients are tender, bite-size. Even patients on special diets will find soups they can enjoy among the more than 50 different varieties available.



Nourishment Campbell's Soups contain selected meats and sea foods, best garden vegetables—carefully processed to help retain their natural flavors and nutritive values.

Convenience Within 4 minutes a bowl of delicious soup is heated and ready to eat.

Economy Campbell's Soups are inexpensive—an important consideration to those whose budgets are limited.

Recommend Campbell's Soups . . . and, of course, enjoy them yourself. Remember, *there's a soup for almost every patient and diet . . . and for every meal.*

THE STOPPER



LOMOTIL®

tablets/liquid

Each tablet and each 5 cc. of liquid contain:
diphenoxylate hydrochloride .....2.5 mg.
(Warning: May be habit forming)
atropine sulfate .....0.025 mg.

first aid in diarrhea of acute gastroenteritis

PROMPT ANTIDIARRHEAL ACTION
Roentgenographic studies demonstrate that the motility-lowering activity of Lomotil is concentrated in the first three hours and continues for at least six hours.

Clinical investigators have found ample confirmation of these determinations. Lomotil has reduced diarrheal urgency in many patients within one hour.

OPTIMAL ANTIDIARRHEAL CONTROL
Numerous investigators have remarked on the high degree of effectiveness of Lomotil in a variety of diarrheal disorders. Lomotil has given good to excellent relief of symptoms in many patients who had failed to respond to other measures.

UNSURPASSED ANTIDIARRHEAL ACCEPTANCE
Patients prefer Lomotil for its convenience, its prompt control of diarrhea and its relief of cramping and urgency. Physicians specify Lomotil for its dependable action and its relative freedom from side effects when taken as directed.

Warnings: Lomotil should be used with caution in patients taking barbiturates and, if not contraindicated, in patients with cirrhosis, advanced liver disease or impaired liver function.

Precautions: Lomotil is a federally exempt narcotic with theoretically possible addictive potential at high dosage; this is not ordinarily a clinical problem. Use Lomotil with considerable caution in patients receiving addicting drugs. Recommended dosages should not be exceeded, and medication should be kept out of reach of children. Signs of accidental overdosage may include severe respiratory depression, flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia; continuous observation is necessary. The subtherapeutic amount of atropine sulfate is added to discourage deliberate overdosage.

Adverse Reactions: Side effects reported with Lomotil therapy include nausea, sedation, dizziness, vomiting, pruritus, restlessness, abdominal discomfort, headache, angioneurotic edema, giant urticaria, lethargy, anorexia, numbness of the extremities, atropine effects, swelling of the gums, euphoria, depression and malaise.

Overdosage: The medication should be kept out of reach of children since accidental overdosage may cause severe, even fatal, respiratory depression.

Dosage: The recommended initial daily dosages, given in divided doses until diarrhea is controlled, are as follows:

Children:
3-6 mo. .. ½ tsp.* t.i.d. (3 mg.)
6-12 mo. .. ½ tsp. q.i.d. (4 mg.)
1-2 yr. ... ½ tsp. 5 times daily (5 mg.)
2-5 yr. ...1 tsp. t.i.d. (6 mg.)
5-8 yr. ...1 tsp. q.i.d. (8 mg.)
8-12 yr. ..1 tsp. 5 times daily (10 mg.)
Adults: ...2 tsp. 5 times daily (20 mg.)
or 2 tablets q.i.d.
*Based on 4 cc. per teaspoonful.

Use of Lomotil is not recommended in infants less than 3 months of age.

Maintenance dosage may be as low as one-fourth the initial daily dosage.

953

G. D. SEARLE & CO. • P.O. Box 5110, Chicago, Illinois 60680 • Research in the Service of Medicine

in cardiac edema

Dyazide®

Trademark

Each capsule contains 50 mg. of Dyrenium® (brand of triamterene) and 25 mg. of hydrochlorothiazide.

gets the water out

spares the potassium

Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

Indications: Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome, late pregnancy; also steroid-induced and idiopathic edema, and edema resistant to other diuretic therapy. 'Dyazide' is also indicated in the treatment of mild to moderate hypertension.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., certain elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—they can both cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

Supplied: Bottles of 100 capsules.

SK&F

Smith Kline & French Laboratories

The various types of insurance are financed under different sets of rules. To a considerable extent, national tax revenue is used to pay for those benefits which give a minimum of protection. The employers bear most of the costs of the benefits to their employees which are graduated according to income. Income graduated benefits for other categories of gainfully occupied persons are paid for by the insured persons themselves.

All Swedish citizens resident in Sweden and over 16 years of age, as well as all foreigners over 16 registered in Sweden for census purposes, are covered by compulsory insurance and are registered in the public insurance benefit societies. Children under 16 are covered by the insurance scheme without being registered.

Sickness benefits comprise medical benefits payable to all insured persons and a daily allowance to which only certain insured persons are entitled. The medical benefits comprise refunds of the cost of medical insurance, hospital care and transportation to and from doctors and hospitals, as well as the cost of physiotherapy, convalescent care, etc. All women are entitled to maternity benefits. A special ordinance entitles insured persons to obtain medicines at reduced prices or, for certain chronic diseases, free of charge. Persons having an annual income from gainful occupation of at least 1,800 SKr, and the majority of housewives, are covered by compulsory insurance for a basic daily allowance of 6 SKr. Moreover, insured persons with an annual income from gainful activity of at least 2,600 SKr are assured a supplementary daily allowance that is graduated according to income. The minimum supplementary daily allowance is 1 SKr (for persons with an annual income from gainful activity of between 2,600 and 3,400 SKr). The maximum supplementary daily allowance is 46 SKr (for persons with an income of at least 39,000 SKr). Thus the total daily allowance (basic plus supplementary) ranges from 6 to 52 SKr. The daily allowance is not payable for the first day of incapacity. For each of the following days sickness allowance is paid according to the sickness allowance class the injured person belongs to.

A self employed person is entitled to choose a waiting period for the supplementary daily allowance of 3, 33 or 93 days. They also have the option of contracting out of the insurance for supplementary pension. If they do so, they will no longer be insured for the supplementary daily allowance. The period during which the daily allowance (basic and supplementary) or hospital benefits are payable is limited to 180 days for old age pensioners. A similar 180-day limit applies to hospital benefits paid to insured persons who are receiving a full disability pension. Certain categories of insured persons—housewives and students—are entitled to voluntary insurance for a daily allowance under certain conditions.

The National Health Insurance Scheme is coordinated with the Industrial Injuries Insurance Scheme.

Maternity benefits comprise reimbursement for confinement expenses, maternity allowance and supplementary daily allowance. In addition, dental care is provided during and after pregnancy. The maternity allowance amounts to 1,080 SKr for the birth of one child. This allowance is increased by 540 SKr for each additional child if more than one child is born at a time. If a gainfully occupied woman interrupts her work during pregnancy, she receives a supplementary daily allowance for a six-month period covering the final months of pregnancy and the months immediately following confinement.

The National Health Insurance Scheme is financed by contributions from the insured, the employers and the State. The State also subsidizes the voluntary insurance for housewives and students.

During 1969 a new system of payment was brought into effect in the non-institutional medical care carried on in Sweden under official auspices - a system which will have extraordin-

ary and fundamental consequences for the Swedish medical profession. In Sweden the number of visits to doctors practicing in the non-institutional medical service is estimated to be about 20 million per annum. Of this number, about 75 per cent are to doctors employed at hospitals and to district medical officers, while the remainder are to the general practitioners and the specialists. Except at certain outpatient departments in Stockholm and Gothenburg, the patient's payment for the treatment given has hitherto been collected by the doctor giving the treatment or by doctors in the "service departments" (X-ray departments and laboratories). The payment has been related to the work done, in accordance with a tariff agreed between the medical-services authorities and the Swedish Medical Association. Th patient subsequently recovered three-quarters of the cost from the national health insurance. The private practitioners are not restricted to any tariff but have the right to decide their fees for themselves. The patient's refund on the fee for a visit to a private practitioner is based on an insurance tariff laid down by the King-in-Council, which, however, agrees in its entirety with the tariff which is in force for hospital doctors and district medical officers. In view of the fact that the general practitioners are themselves responsible for their expenditure, treatment by a general practitioner is necessarily more expensive than by a doctor employed in an official post.

As a result of an amendment to the law which came into effect on 1 January 1970, a patient who receives non-institutional medical treatment from a hospital doctor or a district medical officer must pay a uniform charge of 7 Swedish Krona, which is paid to the medical-services authority. This charge includes the examination and/or treatment given during the visit, consultations with another doctor or specialist at the hospital, the necessary X-ray examinations and laboratory tests. It does not entitle the patient to any reimbursement from the national health insurance. For each registered visit by a patient for non-institutional medical care, the national health insurance department pays 31 Krona to the medical-services authority concerned. In principal, the same system applies to a doctor's visit to a patient in his home, for which the charge to the patient has been fixed at 15 Krona.

According to the arguments that have been put forward, this reform is to be regarded as an endeavor on the part of the authorities to reduce the influx of patients to the considerably more expensive institutional treatment, which is offered to the patients practically for nothing, by reducing the cost to the patients of the non-institutional treatment. Owing to the fact that this amendment to the law has deprived large sections of the Swedish medical profession of their right to collect their fees directly from the patients, it may be stated, by way of summary, that the system of remunerating doctors according to the work done, a system which has hitherto been applied for a long time in the public medical service in Sweden, has been abolished.

In consequence of the new system of payment in non-institutional medical care, negotiations have been opened between the authorities and the SMA on fresh terms of employment for about 7,000 hospital doctors and district medical officers. The aim of the negotiations is to introduce fixed annual salaries for the doctors concerned, with differentials for different categories of doctors and regulated working hours. The working period will be fixed at 42 1/2 hours per week and the medical-services authorities will have the right to require the doctors to work additional hours, in order that the overall needs of medical treatment may be met. The negotiations are extremely complicated, for reasons that are self-evident and also in view of the fact that these questions apply to a large body of doctors, particularly as one of the main lines in the negotiations is that the present, very pronounced differences in income between different groups of doctors are to be leveled out at the same time as the reorganization of non-institutional medical care is carried out. There are considerable risks that no agreement will be reached without the SMA having to resort to strike action.

The new system of payment in the non-institutional sphere of medical care under official auspices is naturally regarded with profound disquiet by the general practitioners. The SMA has therefore taken up with the government authorities concerned the question of the steps which must be taken in order that the future possibilities of the general practitioners making a living may not be jeopardized. The SMA foresees a hard struggle, since the present Swedish government regards it as an essential task to gather all public-health and medical-care services into the public sector. Unfortunately it must also be expeeted that government or municipal financial support for the general practitioners will be associated with a demand for a fixed scale of charges. The negotiations between the SMA and the authorities opened last autumn and will in all probability also continue during the present year.

A proposition for a law concerning transplantation when using living donors has been suggested by the National Board of Health and Welfare. The SMA has as a principle accepted the suggestion but has also expressed some doubts because it seems to be impossible to through a law give clear rules about transplantation of vital organs. This problem is connected with the question of determining the points of death which according to the SMA's opinion requires continued extensive investigations.

Mr. Serner concluded, after his discussion with me, that Swedish medical delivery system, as well as the USA medical delivery system does have problems. It is evident that problems are not solved by ignoring them and it is the time in medical history for physicians to assert themselves vigorously, provocatively, and in high places.

The paper is concluded with a rather simple story which is meaningful to me. While visiting the Karolinska Institute, a research worker (Ph. D.) made a personal expression referable to medical care. It was stated that for the Swedish system excellent mechanics of medicine are practiced but there is very little room for compassion by the doctor for the patient. This is an additional sacrifice and loss that the patient must suffer under the system.

Ben N. Miller, M. D.

50 YEARS AGO

The Journal of the South Carolina Medical Association

December 1920

An article on the virtues of mercurochrome for urological conditions appeared in this issue.

The 8th District Medical Society and the 2nd District Medical Society both had programs presented by the "post graduate team." An article on atypical malaria was published by Dr. F. Johnson. Dr. Samuel Orr Black discussed radium therapy in uterine diseases.

Editorials

Continuing Education

The education and training of a physician should be a continuous process from the beginning of medical school through the period of active practice. A general feeling seems to be that a considerable amount of the knowledge gained in medical school rapidly becomes obsolete or forgotten within five to seven years. The general public has become increasingly aware of this, and they are quite willing to demand that medical services neither be obsolete nor below what they consider to be adequate standards. Government agencies, organized labor and other groups have urged the public to consider this a legitimate issue for their concern, and the Government has dropped more than passing hints of its interest in helping to increase its role in the regulation of the medical profession. The medical profession itself has sincerely professed the need for maintaining high standards and has been exploring approaches to accomplish this.

While some aspects of medical education—usually the earlier phases, e.g., medical school, internship, and residency training – have been fairly well formalized and standardized, training beyond that point has not. Continuing medical education at this point tends not to be well coordinated nor organized in terms of the needs of individual physicians. There are, of course, some excellent (and some not-so-excellent) continuing education programs sponsored by various facilities or by some medical groups who may require a specified number of hours of participation of their members. It would seem, however, as some have suggested, a desirable future endeavor to set up a physician's educational program over a long-term "track" or programmed curriculum starting with medical school and extending throughout active practice. This would be suited to individual needs according to such considerations as the type of practice, levels of prior training, or individual experience, for example. The curriculum might include a number of teaching methods such as closed-circuit T.V. programs, bedside teaching, seminars, selected reading, as well as formalized short courses utilizing different agencies and facilities felt suitable to offer educational services. Specific programmed curricula could be prepared for individuals during designated periods of time. A central coordinating body composed of those with some expertise in the area of continuing medical education could serve in a capacity similar to that of faculty advisor to students for development of individualized programs of study. Possibly this should be a function of the medical college with adequate representation from those outside academic settings to ensure including practical aspects in such programs.

While the primary purpose is obviously for the benefit of the physician and, through him, his patients, some states have already introduced additional motivational factors such as requiring participation in continuing medical education for maintenance of license to practice. This may seem objectionable to some; however, it seems preferable to periodic re-examination for licensure. Such approaches as this should convey concretely to the public the sincere desire and ability of the medical profession to maintain its own standards of quality.

MERRY CHRISTMAS

AND

HAPPY NEW YEAR

MARLBORO COUNTY MEDICAL SOCIETY TO OBSERVE GOLDEN ANNIVERSARY

January, 1971, will mark the Fiftieth Anniversary of the New Year's Meeting of the Marlboro County Medical Society and plans have been made for appropriate celebration of the event. Dr. Walter C. Bornemeier, President of the American Medical Association, will be the speaker for this significant occasion.

The Marlboro County group, though not one of the larger medical societies — with present active membership of fourteen — has maintained its unique institution for half a century. Actually, the Society as an organization has a much longer history.

The first records available indicating the existence of the Marlboro County Medical Society date back to 1904 when the Constitution and By-Laws were printed by the press of the American Medical Association. The Society was evidently formed years before this because Dr. J. L. Napier of Marlboro County was presented for President of the South Carolina Medical Association in 1896. Very little is known about the Society until the year 1920 when four of its members, C. R. May, Thomas H. Smith, J. F. Kinney, and Douglas Jennings made plans for a meeting to be known as the Annual New Year's Meeting to be held in January of each year. The purpose of this meeting was to afford the physicians from the bordering counties of the two Carolinas the opportunity of meeting together for a dinner and to discuss current scientific matters. The first meeting held in 1921 in one of the homes was attended by approximately 12 doctors. This proved to be a gay evening and everyone departed in his Model T determined to be present the following January. Over a period of years this gathering gradually grew too large for the home and was moved to the Masonic Hall and Legion Hut, and now to the Country Club. More and more physicians began attending from the two Carolinas and Virginia and the main speaker was selected from the larger cities and medical schools. The only constant features have been oyster pie and bourbon.

The Marlboro County Medical Society has had three of its members elected to the presidency of the South Carolina Medical Association — J. L. Napier in 1896, C. R. May, Sr. in 1930, and Douglas Jennings, Sr. in 1940. The Tri-State Medical Association was also served as President by Dr. Jennings, and Vice-President by Dr. May.

A large number of our old friends are expected to attend the meeting on Thursday, January 14th, at the Country Club. The meal will again be served by the Junior Charity League, as it has been throughout the years, since the meetings have been held outside the homes of the members. The presence and gracious service of these charming ladies has been another delightful feature.

Several of our guests have attended each meeting and looked forward with keen anticipation to the food, frolic and fellowship. Many new and younger faces are in our midst each year and it is our hope that these younger men will make a habit of attending for many more years. Many of our North Carolina friends are seen only at this meeting and we especially welcome them because the original purpose of the Annual Meeting was to foster closer association between the physicians along the Carolinas border.

We all feel a certain amount of pride in the fact that our meeting attracts consistently 135 to 150 physicians from several states.



Dr. Delmar O. Rhame, Clinton physician and surgeon, received Presbyterian College's 1970 Alumni Service Award on November 7. **Dr. Gurdon W. Counts** of Batesburg has been elected to the Board of Directors of the South Carolina Division of the American Cancer Society. **Dr. E. Kenneth Aycock**, state health officer, has been named to the Injury Control Advisory Committee of the U. S. Department of Health, Education and Welfare.

Dr. Louis G. Llewelyn of Lancaster has opened an office for the practice of medicine in the Great Falls Clinic building. Dr. Llewelyn was medical director of Springs Mills, Inc. in Lancaster for fifteen years. **Dr. B. E. Doughty** has replaced Dr. Llewelyn at the Lancaster Plant of Springs Mills. Dr. Doughty moved to Lancaster from Louisiana, where he operated a 20-bed hospital. **Dr. William C. Hearin, Jr.** was installed as chairman of the Blood Assurance Plan of Greenville. **Dr. David P. Reece** was elected to the Board of the Blood Assurance Plan. **Drs. Dexter B. Rogers and W. Carl Walsh, Jr.** have occupied new quarters on North A Street in Easley.

Dr. Narayan Prasad Deb Roy has joined the staff of the Columbia Veterans Hospital as orthopedic surgeon. Dr. Deb Roy is a native of East Pakistan and has been a resident in pathology at Westminster and St. Joseph's Hospital in London, Ontario. **Drs. H. M. Sargle**, of Orangeburg, **LaRue M. Medlin** of Conway, and **Aubrey D. Gantt** of Williston attended the Annual Scientific Assembly of the American Academy of General Practice in San Francisco.

Dr. Francis N. McCorkle, Jr. has been appointed Chief of Staff at the Kershaw County Memorial Hospital. Dr. McCorkle graduated from the Medical University of South Carolina and has been engaged in the practice of internal medicine in Camden for the past 13 years. **Dr. Kenneth W. Krueger** was elected Chief of Staff of Byerly Hospital in Hartsville at the Annual Meeting of the medical staff. **Dr. M. B. Nickles, Jr.** was elected vice-chief of staff and **Dr. N. Frank Kinsey** was re-elected secretary. Dr. Krueger received his medical degree from Baylor University College of Medicine and is chairman of the administrative board of the Florence-Darlington Mental Health Clinic.

The following doctors have been named as new Fellows of the American College of Surgeons in ceremonies in Chicago on October 15:

Drs. Bartolo M. Barone, Patrick H. Dennis, Thomas A. Kirkland, Jr., and **Norman S. Walsh** of Charleston.

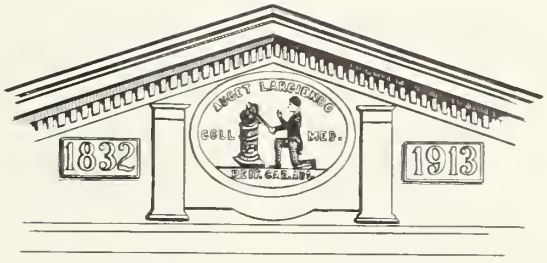
Drs. Daniel W. Davis, Jr. and **A. J. Richards, Jr.** of Columbia.

Dr. J. Lorin Mason, Jr. of Florence.

Dr. J. Ernest Lathem of Greenville.

Drs. Lucien E. Brailsford and **L. Ronald Hurst** of Spartanburg.

Dr. Harry Franklin Smith of Charlotte has joined the staff of Miller, Tiller, Quinn and Morrison at the Medical Clinic on Highmarket Street in Georgetown and will practice general medicine. Dr. Smith completed his studies in medicine at the Jefferson Medical College of Philadelphia and interned at the University of Tennessee. **Dr. Robert B. Belk** has begun the practice of obstetrics and gynecology in Anderson. Dr. Belk received his M.D. degree from the Medical College of Virginia and completed internship and residency training at the Charlotte Memorial Hospital in Charlotte, North Carolina.



Medical University of South Carolina

Dr. Anthony T. Ladd has been appointed chief of the Medical Service at the Veterans Administration Hospital in Charleston and has been named professor of medicine at the Medical University of South Carolina. Dr. Ladd received his M.D. degree in 1945 from the Cornell University Medical School and has been a board certified internist since 1955. He has been a Veterans Administration physician for the past seventeen years. Dr. Ladd is a Fellow of the American College of Physicians and a member of the American Medical Association.

Dr. Curtis P. Artz, professor and chairman of the Department of Surgery at the Medical University of South Carolina has been elected president of the American Association for the Surgery of Trauma and vice-chairman of the Board of Governors of the American College of Surgeons.

Junior medical student, **Alexander R. Smythe, II**, has been named recipient of four scholastic achievement awards for his 1969-70 academic performance at the Medical University of South Carolina. The awards are: Pfizer Laboratories Medical Scholarship for the top scholastic standing among the sophomore and junior classes; the Roche (watch and scroll) Award, for the top ranking sophomore; the Manning Simons Scholarship, for the highest marks in the sophomore and junior classes; and the Lange Medical Publications Award, which is given to the top two students in each of the classes.

Phi Delta Chi, pharmaceutical fraternity, announced at its annual Founders Day breakfast on November 2, the creation of a scholarship in the name of **Dr. J. Hampton Hoch**, former faculty member of the Medical University of South Carolina. Dr. Hoch retired this year from the faculty of the Medical University after serving since 1927.

RESIDENCY IN GENERAL PSYCHIATRY

The William S. Hall Psychiatric Institute has residency openings in the three year general psychiatry program. The program is academically oriented and fully supervised by full-time teaching staff of nine general psychiatrists, three child psychiatrists and two neurologists. The full-time staff is supplemented by teaching consultants in neurology, psychiatry, and child psychiatry and by excellent supportive services in psychology, social work and adjunctive therapies. Salary first year $11,358, second year $12,496 and third year $13,633. Submit inquiries to Director, William S. Hall Psychiatric Institute, P. O. Box 119, Columbia, South Carolina 29202.

EQUAL OPPORTUNITY EMPLOYER

The 24th National Conference on Rural Health will be held March 25-26, 1971, at the Atlanta Marriott Motor Hotel in Atlanta, Georgia. Further information can be obtained from the Council on Rural Health, American Medical Association, 535 North Dearborn, Chicago, Illinois 60610.

The Department of Postgraduate Medicine of Albany Medical College announces Reservations Now Being Accepted for the Twelfth Postgraduate Medical Seminar Cruise January 5-20, 1971, a 15-day cruise from New York aboard the luxurious and distinguished ship "Gripsholm" of the Swedish American Line. Ports of call include San Juan, Dominica, St. Vincent, Trinidad, Barbados, Martinique, and St. Thomas. Faculty of the Albany Medical College will present a comprehensive shipboard postgraduate program, covering subjects in internal medicine, cardiology, oncology, psychiatry, surgery, and obstetrics and gynecology. Request has been made for continuation study credit by the American Academy of General Practice. For information write to:

Girard J. Craft, M.D.
Department of Postgraduate Medicine
Albany Medical College
Albany, New York 12208

Executive Committee of State Board of Health Adopts Definitions of Levels of Care

On October 21, 1970, the State Board of Health's Executive Committee adopted definitions of levels of care in health facilities and related institutions developed by a committee of the Association of State Directors of Health Facility Certification Programs which included Dr. Harriett E. Pinner, Director of the Health Services Division of the State Board of Health. These definitions are designed as a guideline to physicians and associated health professionals involved in planing, constructing, operating, using, and surveying health facilities. They are intended to be acceptable criteria for exercising professional judgment in evaluating a person's need for a specific level of health care, in determining a facility's capability for meeting a person's care needs, and the appropriateness of alternative facilities and services.

The five levels of care recognized are (1) institutional room and board (2) intermediate supervised personal care, (3) intermediate nursing care, (4) skilled nursing care, and (5) hospital care. *Institutional room and board* are similar to the familiar boarding home in which health services are individual responsibilities. *Intermediate supervised personal care* is for persons with limited abilities who do not require continuing nursing care. It features supervised protection, personal care and assistance with such matters as obtaining emergency or regular medical care. *Intermediate nursing care* is for persons needing basic nursing care on a continuing basis under at least quarterly direction of a physician. Such care may include assistance in ambulation, personal hygiene, skin care, exercises, medications, simple dressings, assistance with casts and appliances, protective restraints, and arrangements for diagnostic services. *Skilled nursing care* requires a high level of nursing skills throughout each twenty-four hours under at least monthly direction of a physician. Skilled nursing care includes administration of potent injectables on a continuing basis, restorative nursing procedures, aspiration, maintenance of indwelling tubes other than a routine urethral catheter, tube feedings, and skilled observation and/or administration of gases in the presence of unstable medical conditions. *Hospital care* generally requires daily direction by the attending physician of skilled nurses who provide close observation and care for the patient around the clock and, in addition, a broad spectrum of additional professional techniques and ancillary services.

Dr. Pinner will be pleased to receive comments or requests for further information.

1971 ACP-ASIM MEETING

All practicing internists are cordially invited to attend the annual joint meeting of the American College of Physicians and the S. C. Chapter, American Society of Internal Medicine, March 5-6, 1971, at the Holiday Inn of Columbia, N. W. (I-26). The proposed program follows:

FRIDAY, MARCH 5, 1971

10:30 a.m.	Some Common Errors in Electrocardiographic Diagnosis Dr. Charles P. Summerall, III, Associate Professor of Medicine, MUSC
11 a.m. - 11:20 a.m.	Left Ventricular Failure and Cardiogenic Shock Dr. Bruce Logue, Professor of Medicine, Emory University
11:45 a.m. - 12:05 p.m.	Intravascular Thrombotic Mechanisms and Hemorrhage Dr. Karl Tornyos, Assistant Professor of Medicine & Pathology, MUSC
12:10 - 12:30 p.m.	The Physiologic Approach to Therapy of Chronic Obstructive Pulmonary Disease Dr. Joseph C. Ross, Professor and Chairman, Dept. of Medicine, MUSC
2:30 - 3:30 p.m.	Business meeting of the ACP—Speaker: Dr. Edward C. Rosenow, Jr. Executive Director, Philadelphia, Pa.
3:30 - 5:00 p.m.	Business meeting of the ASIM
8:00 p.m.	Banquet Speaker: Dr. Arnold S. Nash, Chmn., Committee on the Role of the Humanist in Higher Education, Regional Education Laboratory for the Carolinas and Virginia, Chapel Hill, N. C.

SATURDAY, MARCH 6, 1971

9:30 a.m. - 9:50 a.m.	The Role of the Bio-engineer in Medical Practice Mr. Thomas Hargest, Director, Div. of Bio-Engineering, MUSC
10 a.m. - 10:20 a.m.	Thyroid Disease Dr. John F. Buse, Associate Professor of Medicine, MUSC
10:45 - 11:05 a.m.	Management of Chronic Renal Tubular Disorders Dr. Newton C. Brackett, Associate Professor of Medicine, MUSC
11:15 - 11:35 a.m.	Transient Cerebral Ischemia Dr. Hiram B. Curry, Associate Professor of Neurology & Chairman, Department of Family Practice, MUSC
11:45 - 12:05 p.m.	The Role of Bile Acids and Salts in Intestinal Absorption Dr. Fred E. Pittman, Associate Professor of Medicine, MUSC

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AMA Physicians' Recognition Award Program

An award was established by the American Medical Association in December, 1968, to be given to physicians who qualify through participation in approved continuing education programs.

The Division of Continuing Education of the Medical University of South Carolina has requested review and inspection of the continuing medical education programs conducted by the Medical University for approval of the Council on Medical Education of the American Medical Association for accreditation. This survey is anticipated in the spring or summer of 1971, after which time, if AMA accreditation is granted, attendance of all continuing medical education programs sponsored by the Division of Continuing Education may be used to qualify a physician for the Physician's Recognition Award. In the interim, the courses now conducted by the Medical University and as currently listed in the *Journal of the American Medical Association* are AMA approved. Physicians attending these courses will receive credit for the number of approved hours as listed in *JAMA*.

Courses approved by the American Academy of General Practice as conducted by the Medical University may be used for qualification for the Physician's Recognition Award. The credit hours approved are appropriately assigned to the various courses.

A total of 150 credit hours is required in order for a physician to become eligible for the Award Certificate. These requirements may be met by acquiring 150 credit hours of Required Education, or any combination of Required and Elective Education as long as the 60 credit hours minimum for Required Education is met.

The following information in regard to qualifying and achieving the Physicians' Recognition Award may be of interest to South Carolina physicians.

HOW TO APPLY

Application for the award is voluntary and open to all doctors of medicine in the United States without regard to citizenship or AMA membership. Further information and application forms for the Award Certificate may be obtained by writing to the Department of Continuing Medical Education, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

THE AWARD CERTIFICATE

An Award Certificate will be issued after a three-year qualifying period during which specific requirements have been met.

REQUIREMENTS

One hundred fifty credit hours, or more, of approved continuing medical education must be accumulated within the three-year qualifying period. An approved internship or residency of one year is equal to fifty credit hours of the required 150 in a three-year period.

CATEGORIES ACCEPTABLE

1. AMA approved graduate education
2. Education leading to an advanced degree in medical field
3. Medical research
4. Continuing medical education courses
5. Teaching
6. Papers or publications
7. Scientific meetings
8. AMA scientific assemblies and professional society scientific meetings
9. Scientific exhibits
10. Additional teaching

As stated previously, a total of 150 credit hours is needed to qualify for the AMA Physicians' Recognition Award, and must include a minimum of sixty credit hours of Required Education. The remaining ninety hours may be selected from the elective education categories, or may be a combination of credit from the required and elective categories.

Emphasis on continuing education programs for physicians and other health personnel in South Carolina was implemented in December, 1968, with the organization of a Core Staff Section on Continuing Education and Communications by the South Carolina Regional Medical Program. In addition, the establishment of the Division of Continuing Education of the Medical University of South Carolina in April, 1969 was organized to give better coordination of the educational re-

sources of the Medical University and other State institutions.

All of these efforts are planned to make opportunities for the practicing physician's participation in continuing education more economical in both time and effort; to encourage greater interest and participation in self-learning; and to establish methods of granting appropriate recognition and credit for the physician's efforts.

To be truly effective, in addition to effort by the faculty, we need from each of you information that will serve to guide our efforts. Requests for specific programs are solicited and we also welcome your criticism and suggestions as to how we may better improve our efforts in respect to topic content and presentation both in time and place.

DEATHS

Dr. Paden Eskew Woodruff

Dr. Paden Eskew Woodruff died October 31. Dr. Woodruff graduated from the Medical University of South Carolina and did graduate study at Rutgers University. A former mayor of Pickens, he practiced medicine in Pickens and was a member of the medical staff of the Veterans Administration as assistant director of Professional Services.

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Dr. William R. Blackmon

Dr. William R. Blackmon, 82 died October 5 in an Asheville, North Carolina hospital. Dr. Blackmon practiced medicine in Rock Hill for 50 years and was a member of the South Carolina Medical Association and the York County Medical Society.

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Dr. John Sughrue

Dr. John Sughrue, 66, died October 6 in a Charleston hospital. Dr. Sughrue graduated from the Medical College of South Carolina in 1928. He was a member of the Medical Society of South Carolina, The South Carolina Medical Association, the American Academy of General Practice and the American Medical Association.

PLACEMENT SERVICE

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PROCEEDINGS OF THE TENTH MEETING OF THE SOUTHERN SOCIETY OF ANATOMISTS CHARLESTON, SOUTH CAROLINA DECEMBER 9th - 12th, 1970

ANDERSON, K. V., and W. K. O'STEEN, Department of Anatomy, Emory University, Atlanta, Georgia. *Origin of oscillatory potentials in the visual system of rats.*

In this experiment potentials were recorded from several levels of the visual system in normal rats (n=6) and in rats with retinal degeneration (n=9). A graded retinal degeneration was produced by exposing rats to constant illumination under ordinary laboratory conditions for four, 14 or 30 days. Exposure to constant illumination for 14 or 30 days produced widespread degeneration of photo-cells throughout the retina, while exposure for four days led to less drastic changes. In the latter animals, occasional clusters of photo-cells were observed that appeared relatively normal. Three kinds of rhythmic or oscillatory potentials were recorded in normal rats anesthetized with pentobarbital or phenobarbital. The most predominant potential had a frequency of 10-25 cps and could be readily recorded from the optic nerve (ON), optic tract (OT), dorsal lateral geniculate nucleus (dLGN) and visual cortex (VC). A second kind of potential had a frequency of 100-150 cps and was most commonly found in the ON or OT and the dLGN. The third kind of potential had a frequency of 0.3-0.5 cps and was restricted almost exclusively to the VC. Following exposure to constant light for four, 14 or 30 days, all three kinds of rhythmic, oscillatory potentials were abolished or markedly disrupted. In animals exopsed to constant illumination for 14 or 30 days, oscillatory potentials were completely absent in the ON, OT, dLGN and VC. Animals exposed to constant light for four days exhibited either an absence of rhythmic potentials in the visual system or potentials that were only similar to those found in normal rats. These results indicate that oscillatory potentials in the visual system of the rat originate in the retina. (Supported by grants M68:164 and HD04120 USPHS awarded to Dr. O'Steen and MH16077, a Research Scientist Development Award awarded to Dr. Anderson.)

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BARBERIE, M. E., Department of Anatomy, University of Virginia, Charlottesville, Virginia. *The role of interstitial cells in muscle growth.*

In 11-day chick embryos muscle tissue in the wing consists of long myotubes and mononucleated cells. To answer the question in which cells and at what rate proliferation of muscle tissue occurs, the mitotic, colcemid and thymidine indices were determined. The myotube nuclei showed neither mitosis nor incorporation of H^3-thymidine, but the interstitial cells had a mitotic index of 1.5%, a colcemid index of 3.1% and a thymidine index of 20%. Hence, growth by proliferation is restricted to interstitial cells. To examine whether all interstitial cells participate in growth, 11-day embryos were injected with H^3-thymidine and sacrificed at hourly intervals. By the labeled mitosis technique the S phase was found to be 6.4 hours, the G_2 + M phase two hours, and G_1 phase 6.6 hours. Since the thymidine index (the percentage of cells in S) was 20% and the total cell cycle lasted 15 hours, it is concluded that 15/S x 20 = 46% of the interstitial cells belong to the proliferating population. Some of the labeled interstitial cells fuse with existing myotubes. Over a 15-hour period, however, this percentage is relatively small (6%) considering that over the same period the percentage of labeled interstitial cells almost doubles. Many of the latter cells, however, fuse together as indicated by the appearance of new myotubes with a high percentage of labeled nuclei. Hence, few of the interstitial cells fuse with existing myotubes, but most fuse together to make new myotubes.

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BARHAM, W. D., Department of Anatomy, University of Alabama, Birmingham, Alabama. *Growth and development of the chimpanzee bony pelvis.*

Tracings of serial X-rays (taken between the first and twelfth year of post-natal development) demonstrate that growth of the chimpanzee bony pelvis is a dynamic process. There are certain fundamental processes that are common to the growth pattern of all chimpanzee pelves.

The pelvic complex, when divided into local areas of growth, demonstrates how these local areas participate in the overall pelvic growth process. When the local areas are considered individually, they show that they differ in their contribution to the final adult configuration. These areas further show that there exists a differential growth pattern for all chimpanzees. This pattern can be ranked from the area showing the most growth to the area showing the least growth: iliac crest, ischial tuberosity, acetabular region, ischiopubic rami, pubic rami and pubic region. This ranking of growth is in total distance that a particular region grows during the period under study.

Apart from the distance of growth, the velocity of growth and the direction of growth also exhibit certain dynamic processes that are common to all individuals in this investigation.

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BARRINGTON, Burness A., Jr., J. Manly STALLWORTH, Antonio RAMIREZ*, and R. Randolph BRADHAM, Departments of Anatomy and Surgery, Medical University of South Carolina, Charleston, South Carolina. *Microcirculatory changes during induction and treatment of hemorrhagic shock.*

Experiments were performed on 52 mongrel dogs to study and record photographically changes in the microcirculation of the mesentery during hypovolemic shock and treatment with dextrans, dextrose, Hartman's solution, fresh and stored whole blood, vasoconstrictor and vasodilator agents. Each animal was bled a volume sufficient to produce and maintain a mean systolic pressure of 20 to 30 mm Hg for one to 6 hours. Systems of capillary units are arranged in parallel association in the mesentery with abundant arterio-arterial and veno-venous connections. No change in diameters of the microvessels were detected except in short segments of some arterioles at their origin from parent vessels. These local areas seemed to function in regulating the volume of formed elements entering the capillary systems. There was a marked reduction in rate of flow during the induction and maintenence of shock but flow did not cease unless the animal was allowed to reach a terminal condition. Intravascular aggregates of red cells did not appear with hemorrhage alone and became a prominent feature only after prolonged exposure of the tissue.

Dextrose 5% in water, Hartman's solution, and dextrans 40 and 70 restored control pressure and flow; however, the dextrans were more effective in those experiments requiring large replacement volumes.

Fresh blood replacement quickly restored pressure and flow but stored blood did not improve the flow.

Vasopressors produced immediate hypertension and rapid flow. However, these effects were transitory and were soon followed by a shock state more severe than that initially.

The vasodilator drugs slowed the flow rate and did not improve pressure.

In the conjunctiva the vasodilator drugs caused dilation of the microvessels and vasoconstrictors produced almost complete cessation of flow. This points out the fact that capillary units in various parts of the body may respond differently to shock as well as treatment. (Supported by the John A. Hartford Foundation.)

*Present address: Universidad de Sna del Rosario School of Medicine, Bogota, Colombia.

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BASMAJIAN, John V. and John F. LOVEJOY, Jr., Department of Anatomy and Rehabilitation Research and Training Center, Emory University, Atlanta. *Electromyography of popliteus muscle.*

Except for one short and somewhat misleading electromyographic paper, no real progress has been made in revealing the considerable significance of popliteus in man. Conjecture combined with sporadic rediscovery of an attachment to the lateral meniscus of the tendon of origin have led to disinterest. To some theorists there is an obvious relationship between the function of this unique muscle and the cartilage; there the matter rested.

As part of a broad program of electromyographic kinesiology combined with multifactorial recordings, we inserted bipolar fine-wire electrodes into the middle of the belly of the right popliteus in 22 young adult volunteers. These electrodes are impalpable, being only 25 microns in diameter and highly flexible. Multiple tests of the activity of the muscle during various postures, movements and gaits were recorded. A short film will demonstrate the technique.

The muscle is rather inactive during flexion of the knee, an action for which textbooks often emphasized an unlocking function early in flexion. It is silent in lateral rotation but very active in medial rotation of the tibia, apparently in relation to protection of the lateral meniscus from being caught and "crunched." (Supported by Grant #16-P-56808/4-07 from the Social and Rehabilitation Services, Department of Health, Education and Welfare, Washington, D. C.)

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BROWNING, Henry C., Richard TRIPPIE, Stephen HARVEY, and J. McCORMACK, Department of Anatomy, The University of Texas Dental Branch, Houston, Texas. *The mammary gland in the male of various orders of Mammalia.*

In a survey of a few species of mammals, the mammary gland of the male might (A) — be absent; (B) — be represented by short ducts confined to the nipple area and with little or no branching; (C) — have ducts extending for a short distance into the fat pad and having some branches; or (D) — have an extensive duct system with alveoli, resembling that of the virgin female. Inbred strains of mice show development of type A, B, or C; at least some strains of rat have development of type D.

In the Primates, as represented by *Macacus mulatta*, the rhesus monkey, *Cebus sp.*, capuchin monkey, *Callithrix jacchus*, a marmoset, and *Macaca irus*, the cynomolgus monkey, glands were of the B type. They were similar in Edentata, represented by *Dasypus novemcinctus*, the armadillo. In Lagmorpha, they were of the D type in *Oryctolagus cuniculus*, the domestic rabbit (New Zealand strain) but of B type in the Eastern cottontail, *Sylvilagus floridanus*.

In Rodentia, they were of A type in *Sciurus niger*, the fox squirrel. *Citellus tridecimli neatus*, the ground squirrel, *Eutamias sp.*, a chipmunk (Sciuridae), in *Peromyscus californicus*, a deer mouse, *Mesocricetus auratus*, the golden hamster, and *Microtus arvalis*, a vole; however, they were of C type in *Sigmodon hispidus*, the cotton rat (Cricetidae). They were of D type in *Cavia porcellus*, the guinea pig, a hystricomorph rodent. In Carnivora, represented by *Panthera leo*, the lion, and *Procyon lotor*, the raccoon, they were of B type.

Within the limited number of species available at present, male mammary gland development appears to differ sharply between orders but often remain similar within orders of mammals. However, caution is required in interpreting absence of mammary structure in isolated fat pads as indicating lack of all structure, as small ducts may be confined to the nipple. (Supported by USPHS Research Grant CA-02880 and General Research Support Grant FR-05344.)

BURDEN, Hubert W., Department of Anatomy, Tulane University, New Orleans, Louisiana. *The adrenergic innervation of the ovary in mammals.*

The adrenergic innervation of ovaries of rats, rabbits, guinea pigs, and cats was studied by a histochemical fluorescence method. In all animals used, catecholamine-containing fibers entered the ovary via medullary perivascular plexuses and extended into adjacent stromal tissue. However, the overall density and extent of cortical innervation showed considerable species variation.

Both cortical and medullary components of the cat and guinea pig ovary were densely innervated. Nerve fibers extended into the interstitial gland, primordial egg nests, developing follicles, and theca externa of vesicular follicles in these animals. In contrast, relatively few nerves were present in the rat and rabbit. The interstitial gland of the rat ovary contained a moderate number of nerves and fluorescent structures which are morphologically similar to perikarya. Frequently there was a perivascular plexus adjacent to mature follicles, but the theca externa was not innervated. In the rabbit, medullary stroma was sparsely innervated and only rarely did nerves appear to reach the cortex.

It is suggested that the species variation in innervation patterns may be related to differences in ovarian function. (Supported by NIH Grant #GM 00793.)

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BUTLER, A. B., Department of Anatomy, University of Virginia, Charlottesville, Virginia. *The migrating neuroblast in hamster cortex: a combined autoradiographic and electron microscope study.*

In the Syrian hamster brain, neuroblasts labeled in the neuroepithelium on postnatal day one can be traced by autoradiographic methods into the cortex where they eventually are located in the superficial cell layers as differentiated neurons. These labeled migrating cells have been studied with the electron microscope from the time they first pass through the deeper cell layers until they reach the junction of the cortex and molecular layer. To answer the question: do the cells differentiate during migration, newborn hamsters were injected with a single dose of tritiated thymidine (10u c/gm) and animals were sacrificed on postnatal days 2, 4, and 5. Samples of parietal cortex were processed by routine electron microscopic techniques. One thin section (1000A) oriented perpendicular to the surface, was cut and placed on a bar grid following which a 1u section was cut and placed on a glass slide. The latter was processed by routine autoradiographic technique. The labeled cells were identified in the autoradiographs with the light microscope and identical cells were visualized with the electron microscope. Two days after treatment labeled cells were found in the deepest layer of the cortical plate. They were spindle-shaped with most of the visible cytoplasm at the apical (surface) pole. The nuclei ware irregular in shape and had clumped nucleoplasm. The cytoplasm contained numerous ribosomes, mitochondria, and minimal rough endoplasmic reticulum. At four days the labeled cells were distributed throughout the upper half of the cortical plate. The nucleus was oval to round with more evenly dispersed chromatin, containing multiple nucleoli. Within the cytoplasm there was an increase in the number and complexity of the organelles and numerous microtubules were present. By day 5 when labeled cells were found immediately below the molecular layer, nuclear characteristics were similar to 4 day cells. In addition to the increased number of organelles within the cytoplasm, Nissl bodies were first found. Hence, migrating neuroblasts show differentiation during migration. (Supported by USPHS Grant NB09162 and NB06188.)

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CARMICHAEL, S. W., Department of Anatomy, Tulane University, New Orleans, Louisiana. *Fluorescence microscopy of the adrenal medulla of the newborn puppy after asphyxia and hypothermia.*

This was a qualitative morphological study of catecholamine depletion in the adrenal medullae of newborn puppies that were subjected to asphyxia and hypothermia. Earlier work has shown that hypothermia exerts a protective effect during asphyxia of the newborn. Since it is well documented that both asphyxia and the induction of hypothermia stimulate the secretion of catecholamines from the adrenal medulla, this study was designed to demonstrate the morphology of catecholamine depletion during asphyxia and hypothermia.

Five litters of day-old mongrel puppies were used. From each litter, puppies were used as follows: 1) control, 2) immersed in ice-water until colonic temperature was reduced to 15°C, 3) asphyxiated to twice the time of last gasp while colonic temperature was maintained at 37°C, 4) cooling in ice-water to 15° C followed by the same time of asphyxiation as his littermate in Group 3. The adrenals were quickly removed immediately after the treatment and prepared for study by a histochemical fluorescent method.

The adrenals from the control animals showed a very strong fluorescence that was nearly solid in the medulla. Adrenals from animals immersed in ice-water also demonstrated strong fluorescence, although it was not as solid as in the controls. Adrenals from the warm asphyxiated animals showed diminished fluorescence in over half of the medulla leaving strongly fluorescing islets that gave a patchy appearance to the gland. Adrenals from the cold asphyxiated animals flouresced as did those of group 2.

The extent of catecholamine depletion is interpreted as a possible index of the stress experienced by the puppy. Based on this assumption it may be concluded that asphyxia of the coenothermic puppy to twice the time of last gasp presents a greater stress than immersion in ice-water until the body temperature is lowered to 15°C. If the animal is asphyxiated following immersion in ice-water, little or no further depletion is noted, indicating that during asphyxia the hypothermic puppy secretes catecholamines at such a reduced rate that there is no appreciable loss

during 30 minutes. (Supported by NIH Grant No. 5 T1 GM 793.)

COLEMAN, William H., Department of Anatomy, University of Alabama in Birmingham, Birmingham, Alabama. *Growth trends in the chimpanzee and human bony pelvic girdle, a comparative study.*

Chimpanzee and human bony pelvic growth, as shown by longitudinal roentgenographic studies, is a dynamic multidirectional, complex process. But, there are certain fundamental growth considerations that are common to both. Both pelvic complexes respond to an adolescent growth stimulus. In response to this stimulus, both chimpanzee and man, show a pattern of differential growth among the anatomical regions of the pelvic complex. Man shows a pattern of steadily decreasing growth that moves from the iliac crest through the external acetabulum, ischial tuberosity, pubic rami and terminates in the pubic region. The chimpanzee shows the same pattern with one exception, the order of the ischial tuberosity and the acetabular region is reversed.

Numerous other common relationships serve to unite the chimpanzee and human pelvic growth processes into a functional pattern common to both. The pattern of multidirectional expansive enlargement of both pelvic complexes is the same. Both show twice as much growth in the iliac crest region as they do in the ischial tuberosity region (relative to the increase in length of the coxa). Also, similarities are found in the location of regional sex differences in amount and direction of growth. Both show sex differential growth and remodeling in the sciatic notch, pelvic inlet, pelvic outlet, pelvic outlet depth and especially in the subpubic angle.

Thus, present information indicates that these two functionally similar structures attain their adult morphology through a very similar, though complex process—a process so similar that it seems to be a basic primate pelvic growth pattern.

CROW, Claudia A., Elsa E. RAMOS, and Arnold SCHWARTZ, Department of Anatomy, Tulane University, New Orleans, Louisiana, and Division of Myocardial Biology, Baylor College of Medicine, Houston, Texas. *An ultrastructural and biochemical study of hypertrophy and failure in the cardiomyopathic hamster.*

An ultrastructural study was made of hearts from cardiomyopathic (BIO-14.6) and control (LSH) hamsters, age 20 to 300 days. Parameters of oxidative phosphorylation (respiratory control, ADP:O ratios, and oxygen uptake) were assayed polarographically in isolated heart mitochondria from these hamsters. Compared with controls, mitochondria in cells of young myopathic hamsters (20-45 days) were smaller and more numerous and appeared in clumps among the myofibrils. At peak degeneration (60-80 days), mitochondria and myofilaments in many cells showed necrotic changes. During peak hypertrophy (80-127 days), increased number of ribosomes, dilatation of sarcoplasmic reticulum, structural alterations in the cristae and matrix of mitochondria, and further increase in mitochondrial number and aggregation were seen. During severe failure (280-300 days), further dilatation of the sarcoplasmic reticulum, intracellular edema, swelling of many mitochondria, and dehiscence of intercalated discs occurred. The respiratory control index was higher than normal in isolated mitochondria of myopathic hamsters during growth and early hypertrophy but was depressed during degeneration, late hypertrophy, and failure. Oxygen consumption was depressed with increasing failure. The efficiency of ATP production did not appear to be significantly altered in most groups. Differences in inner membrane configuration between mitochondria in respiratory states III and IV were not detected. (Supported by HE 5435, P8; HE 7906; K3 HE 11, 875.)

CULBERSON, Jim L. and Donald L. KIMMEL, Department of Anatomy, West Virginia University, Morgantown, West Virginia. *Sensory projections of the glossopharyngeal and vagus nerves to the brain stem of the opossum, Didelphis virginiana.*

Rootlets of the glossopharyngeal and vagus nerves were cut along their intracranial course, central to their superior ganglia. The distribution of degenerated sensory fibers to the brain stem was studied in transverse and horizontal sections of brain stem and cord, stained by Nauta-Gygax and Fink-Heimer methods. Nissl-stained sections from normal brains were also studied to define the extent and cell types of the nuclei of the tractus solitarius.

Rootlets of the two nerves enter the brain stem more ventrally than in the cat. They course dorsomedially through the ventral half of the spinal trigeminal root to reach the tractus solitarius. Along this intramedullary course, fibers turn caudally into the reticular formation and the spinal trigeminal root. Fibers which enter the latter tract are scattered throughout its dorso-ventral extent and terminate in the pars caudalis of the spinal trigeminal nucleus and in dorsal horn gray of the upper cervical segments.

Along the tractus solitarius, fibers terminate in its medial, lateral and interstitial nuclei. Fibers also distribute to the nucleus of the commissura infima which is continuous with the caudal portion of the medial nucleus. Some fibers cross this commissure and ascend a short distance before terminating. Although a component of the tractus solitarius caudal to the commissura infima has not been identified in the opossum, the commissure itself continues into the upper cervical spinal cord. (Supported by NIH Grant #07021-03.)

DAVIES, T. C., Department of Anatomy, Medical University of South Carolina, Charleston, South Carolina. *The use of pyrrolizidine alkaloid as an experimental tool.*

The pyrrolizidine alkaloid *monocrotaline* can be extracted from seeds of *Crotalaria spectabilis* (*Roth*). The cost of this procedure is approximately $50 per gram.

We have given monocrotaline to rats, mice, dogs, cats, pigs, and monkeys. Following poisoning with monocrotaline, we have observed signs, symptoms, and pathology in each of these six species.

Monocrotaline causes widespread, destructive, pathologic lesions. The consequences of its effects depend upon the dose given. Large doses cause acute pulmonary edema, hepatic necrosis, and early death. Smaller doses produce pathologic lesions in the liver, lung, G-I tract, kidney, gonads, lymph nodes, heart, blood vessels, adrenal gland, and pancreas.

It is recorded that monocrotaline affects essential subcellular enzymatic systems. Many of the pathologic changes produced by monocrotaline can be duplicated by exposure to high tensions of oxygen, as well as to ionizing radiation.

Monocrotaline appears to act as a general cytotoxin. In view of its profound effect upon the cell-life process, it should be of interest to many workers in the biologic sciences. (Supported by Grants No. NIH-GRS-RR5420 to the Medical University of South Carolina and by the South Carolina Appropriation for Medical Research.)

DOUGHERTY, William J., and Linda NIMS, Department of Anatomy, Medical University of South Carolina, Charleston, South Carolina. *Electron microscopic observations on glycerol extracted rabbit platelets.*

Contractility is one of the multiple aspects of blood platelet activity and is believed to play a significant role in hemostasis. An actomyosin-like protein, thrombosthenin, has been isolated from human and porcine platelets. On the basis of electron microscopic evidence, it has been suggested that microfibrils which occur in platelet cytoplasm correspond to the contractile protein, thrombosthenin. In glycerol-extracted rabbit platelets, it is possible to demonstrate electron microscopically a loose network of 60 A diameter fibrils within the platelet cytoplasm. Such fibrils form close associations with the plasma membrane and with the membranes of internal vacuolar structures. When treated with 10^{-4}M ATP, the fibrils condense into discrete, closely packed masses within the platelets. ADP has a similar effect. These results demonstrate that cytoplasmic fibrils within platelets are contractile and may be thrombosthenin. In a number of instances, it was noted that the fibrils appear to form parts of the walls of microtubule-like structures, suggesting further that some microtubules may have a contractile function. (Supported by American Heart Association Grant No. 68817.)

EAGLES, Jan, Department of Biology, University of Montevallo, Montevallo, Alabama. *Meniscal ossification in the adult and aging rat.*

The menisci of 52 rats, ranging in age from 30 to 1,137 days were studied histologically to determine their normal structure at various ages. The menisci of young rats are composed of hyaline cartilage in the anterior horn, and fibrocartilage in the posterior horn and in the intermediate zone connecting the two horns. The anterior and posterior horns of the menisci become ossified progressively from 60-70 days until approximately 600 days. This study indicates that this ossification is neither a degenerative nor an osteoarthritic change, but a normal physiological ossification similar to that occurring in other cartilages.

Meniscal ossification begins earlier and proceeds more rapidly in the male up to approximately 450 days, after which there is no appreciable difference in the ossification centers of males and females. Meniscal bone is trabecular and non-lamellar, and contains a number of hypertrophied chondrocytes, apparently enclosed by osseous tissue. The cavities surrounding the bone appear to contain marrow.

Vascular twigs penetrating the meniscal horns from the surrounding perichondrium could not be observed at any age, and no cells could be absolutely identified as osteoblasts. In some areas of the developing bone, it appeared that chondrocytes were transformed into osteoblasts. Osteogenic cells in the rat menisci possibly come both from existing chondrocytes and from undifferentiated cells brought in by blood vessels.

EDWARDS, Betty F., Department of Anatomy, Emory University, Atlanta, Georgia. *An adaptation to increased student enrollment.*

Increased number of students in many medical schools without increase of faculty, contact hours or existing laboratory facilities has posed many problems. Our solution to the critical shortage of laboratory space in Microscopic Anatomy was to divide the class into two equal sections, each section having one laboratory session a week, while the other attended a "slide session". Using the same laboratory manual as in previous years, two exercises were covered at each laboratory session; the same material was also covered at the simultaneous showing of lantern slides in the lecture hall. Thus each group had an opportunity to study the material with the microscope, and with photomicrographs projected on a screen. One half of the class saw the projection prior to their laboratory period, and were oriented and given "hints" as to how to search for and recognize the material, whereas the other half of the class saw the 2 x 2 slides after they had studied the material in the laboratory, and thus had the advantage of review and of correcting any misconceptions.

In spite of the fact that actual laboratory time had been cut in half, the grades on the practical examinations ran consistently higher than in previous years. Overall grades improved over the three preceding years. It seems probable that increased teacher-student ratio in the laboratory, accompanied by less noise and crowding may have contributed to improved student learning, as well as the reinforcement due to repetition of the same material during the projection sessions.

ELLISON, J. P., M. G. HOLLAND and R. G. HIBBS, Tulane University School of Medicine, New



The concert was just underway,
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KEEP THIS AND ALL MEDICINES OUT OF REACH OF CHILDREN
4 FL. OZ.
A.H. ROBINS
Robitussin-PE
4 FL. OZ.
Cough Calmers

clear the tract with the

Robitussin® Line

The coughing season is here again. Time to rely on the four Robitussins and Cough Calmers to help clear the lower respiratory tract. All contain glyceryl guaiacolate, the efficient expectorant that works systemically to help increase the output of lower respiratory tract fluid. The enhanced flow of less viscid secretions soothes the tracheobronchial mucosa, promotes ciliary action, and makes thick, inspissated mucus less viscid and easier to raise. Available on your prescription or recommendation.

For coughs of colds and "flu"

Robitussin®

Each 5 cc. contains:

Glyceryl guaiacolate	100.0 mg.
Alcohol, 3.5%	

For unproductive allergic coughs

Robitussin A-C®

Each 5 cc. contains:

Glyceryl guaiacolate	100.0 mg.
Pheniramine maleate	7.5 mg.
Codeine phosphate	10.0 mg.
(warning: may be habit forming)	
Alcohol, 3.5%	

Non-narcotic for 6-8 hr. cough control

Robitussin-DM®

Each 5 cc. contains:

Glyceryl guaiacolate	100.0 mg.
Dextromethorphan hydrobromide	15.0 mg.
Alcohol, 1.4%	

Clears sinuses and nasal stuffiness as it relieves cough

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Each 5 cc. contains:

Glyceryl guaiacolate	100.0 mg.
Phenylephrine hydrochloride	10.0 mg.
Alcohol, 1.4%	

Robitussin-DM in solid form for "coughs on the go"

Cough Calmers™

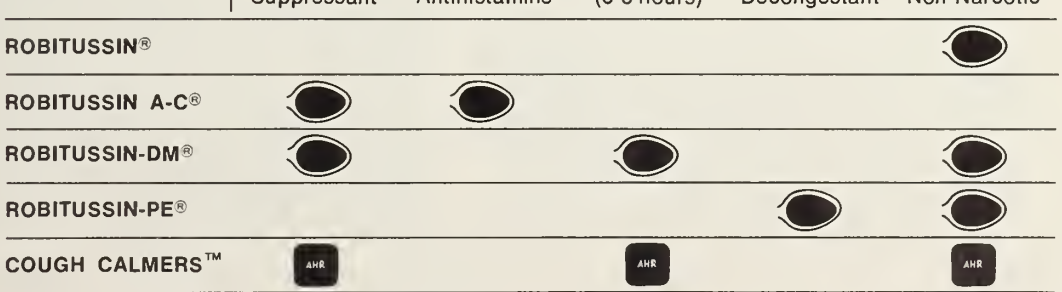
Each Cough Calmer contains:

Glyceryl guaiacolate	50.0 mg.
Dextromethorphan hydrobromide	7.5 mg.

Select the Robitussin®"Clear-Tract" Formulation That Treats Your Patient's Individual Coughing Needs:

Robitussin® extra benefit chart

All 5 Robitussins have an EXPECTORANT-DEMULCENT action. Keep this handy chart as a guide in selecting the formula that provides the *extra* benefits you want for your patient.



A. H. Robins Company, Richmond, Va. 23220 A·H·ROBINS

Orleans, Louisiana. *The extrensic eye muscles in oculopharyngeal dystrophy.*

A biopsy was taken from a diseased superior rectus muscle and processed for electron microscopy. The muscle cells studied were divided, for the purposes of description, into types I and II. Type I cells contained glycogen to excess, very large abnormal mitochondria and a few vacuoles, whereas type II cells were characterized by a conspicuous lack of glycogen, relatively few mitochondria (smaller than in type I) and many vacuoles. A comparison of the two cell types, often aided by their juxtaposition, suggested that type II could be derived from type I, and that the many vesicles of the type II cell might represent defunct mitochondria and dilated endoplasmic reticulum. Abnormal sarcomeres, which were frequently seen in type I cells, were the rule in type II. All the sarcomere bands were indistinct, and it was possible to identify positively only the grossly thickened Z bands. The myelinated nerves in the muscle also showed changes, in the Schwann cell cytoplasm. Gross deposits of glycogen were seen in these cells and also in the sheath cells of unmyelinated fibers. Correlation of the glycogen status of the muscle cells with ultrastructural evidence of degeneration, together with the abnormal glycogen status of non-muscle elements (Schwann cells) suggests the possibility that the glycogen disturbance may be a primary feature of this disease. (Supported by Grant 1-RO1-HE-13616-01)

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GATZ, A. J., Department of Anatomy, Medical College of Georgia, Augusta, Georgia. *Survival of free ureteral grafts implanted in the subcutaneous tissue of dogs.*

This study was undertaken to verify the survival of ureteral implants in the subcutaneous tissue of dogs. Segments of ureter, varying from one to three centimeters in length, were implanted and allowed to remain from 24 hours to a maximum period of 80 days. Twenty-four hours prior to recovering the implants, the subcutaneous tissue surrounding the ureteral segment was infiltrated percutaneously with 2 ml. of H^3 thymidine saline solution. The tissue was fixed in formalin and stained by both H & E and Feulgen techniques.

Our studies show the localization of the radioactive thymidine in the nuclei of the epithelial and connective tissue cells of the graft and in the connective tissue cells of the surrounding subcutaneous tissue. The recovered ureteral implants retained their normal morphology. These results indicate that the transplanted ureteral segments remained viable up to 80 days.

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HARPER, John T., Holde PUCHTLER, Susan N. MELOAN and Linda S. VALENTINE. Department of Pathology, Medical College of Georgia, Augusta, Georgia. *Further histochemical and polarization microscopic studies of renal tubular basement membranes and cristae.*

In previous studies of renal tubules we demonstrated transverse basement membrane cristae. However, Mangione classified tubular basement membranes and cristae as a system of reticulum fibers. We therefore reinvestigated these structures. Carnoy and methacarn fixed paraffin sections of human kidneys were treated with the periodic acid-sodium bisulfite- resorcin-fuchsin (PBRF) and the allochrome procedure; picosirius red F3BA were used for polarization microscopic studies.

PBRF colored basement membranes and cristae purplish-black; reticulum fibers remained unstained. The allochrome procedure stained collagen and reticulum fibers blue; basement membranes and cristae retained the red coloration of the PAS reaction. Reticulum fibers were strongly birefringent; normal basement membranes and cristae were isotropic. Thus, histochemical and polarization microscopic properties of basement membranes and cristae differed strikingly from those of reticulum fibers. These observations are in agreement with chemical, electron microscopic and X-ray diffraction data.

Two types of alterations of basement membranes were observed:

1. Thickened basement membranes containing prominent transversely obliquely or longitudinally arranged cristae which were weakly to moderate birefringent. Apparently, the collagen moiety of basement membranes was more oriented than under normal conditions.
2. "Splitting" of basement membranes. In many areas numerous myoid interstitial cells were found between tubuli with thickened basement membranes and between layers of "split" basement membranes. Our earlier studies suggested formation of basement membranes by tubular myoepithelial cells. The question may now be raised whether or not myoid interstitial cells can also form basement membrane-like material. (Supported by United States Public Health Service grants #HE 12127 and FR 5365.)

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HARTING, John K., and C. R. NOBACK, Department of Psychology, Duke University, Durham, North Carolina, and Department of Anatomy, College of Physicians and Surgeons, Columbia University, New York, New York. *Some observations on the corticospinal tract of the squirrel monkey (Saimiri sciureus).*

Lesions were placed within the forelimb and hindlimb regions of the precentral motor and postcentral somatosensory cortex within a total of 11 squirrel monkeys. The corticospinal pathways were then examined by employing the Fink-Heimer and Wiitanen techniques for demonstration of degenerating axons and their endings. The areas of spinal cord termination of corticospinal fibers were defined according to the laminar criteria of Rexed.

Observations on the corticospinal tract of Saimiri suggest two conclusions: (1) The number of corticospinal fibers terminating in lamina IX is minimal, less than for other anthropoid primates studied. These few fibers originate exclusively for the precentral

motor cortex. This paucity of direct connections to lamina IX in Saimiri may be functionally correlated with the known lesser dexterity of the digits in this species, compared with primates in which direct cortico-motor-neuronal connections are well developed. (2) Corticospinal projections from the postcentral somatosensory cortex terminate within laminae III, IV, and V of the dorsal horn. These projections, of very modest volume when compared with those of the precentral motor cortex, may play a role in the cortical modulation of afferent impulses from the spinal cord. (Supported by NINDS grants 5T01 NS-05242-11, NS-03473-09, and NIMH grant 2T01 MH06985011.)

HILLMAN, J. R., First U S Army Medical Laboratory, Fort George G. Meade, Maryland. *Adrenal cortical development in the golden hamster: An ultrastructural and histochemical study.*

Adrenal glands were collected from fetuses of Golden Hamsters at 12-1/2, 14-1/2, 15-1/2 days gestation and from new born, 10-day-old and adult animals. Ultrastructural differentiation of the fetal adrenal was characterized by the development of zonation and typical steroid producing cells. At 12-1/2 days gestation cortical cells had smooth borders, many polyribosomes and contained mitochondria with lamellar cristae. Signs of functional zonation into deep and superficial zones were evident at 14-1/2 days gestation. Cortical cells of the superficial zones contained scattered lipid droplets, small Golgi areas and mitochondria with lamellar cristae. By 10 days of age this zone had developed into the typical adult zona glomerulosa. The cortical cells of deep zone were characterized by mitochondria containing tubulovesicular cristae, well developed Golgi areas and lysosomes. At 15-1/2 days gestation and in older animals, zonation was prominent with desmosomes and tight junctions present between the deep cortical cells. In adult animals the cells of the zona fasciculata consisted of two cell types: one with electron dense cytoplasm, mitochondria in the orthodox conformation and prominent smooth endoplasmic reticulum, and the other with less dense cytoplasm containing mitochondria in the condensed configuration. In fetal and new born animals high levels of acid phosphatase, alkaline phosphatase and type B esterase were present in the deep cortex but low levels of activity were found in the superficial zone. The activity of 3B-hydroxysteroid dehydrogenase was low in the fetal adrenal cortex, but in the adult high levels were present in all zones. (Supported by NIH Grant #F01 GM 34501-0251.)

LANGMAN, Jan, Department of Anatomy, University of Virginia, Charlottesville, Virginia. *The effect of short term insult on neuroepithelial cells during fetal life.*

When mammalian fetuses are labeled with tritiated thymidine and sacrificed at various days after treatment, labeled cells are seen to migrate out of the neuroepithelial zone towards the surface of the cortex. During this migration and after arrival in the cortex they gradually differentiate into neurons. To examine whether interference with the proliferave activity of the neuroepithelial cells leads to permanent damage in the cortex or is followed by repair in the neuroepithelial zone thus preventing cortical damage, 15-day pregnant mice received a single dose of 5-azacytidine and 15 minutes later an injection of tritiated thymidine. The treated animals were sacrificed at various hours and days after treatment. One hour after the last treatment labeled nuclei were seen in the neuroepithelial layer, indicating that 5-azacytidine had not interfered with the incorporation of tritiated thymidine. Two to eight hours after treatment an increasingly larger number of abnormal mitotic fugures were noted at the lumen. Despite these mitotic anomalies many of the affected cells migrated away from the lumen and reached the migratory zone 24 hours after treatment. During the following day the number of abnormal cells decreased and by 48-hours they had all disappeared. While in 48-hour control animals many labeled cells were seen in the cortex, none were observed in the cortex of the experimental animals. Hence, a short term insult to the neuroepithelial cells resulted in a shortage of neurons in the cortex. When 13-day embryos were treated with 2mg/kg 5-azacytidine on three successive days and sacrificed at various days after birth, the cortex contained fewer cells than that of the controls. Thirty days after birth this difference was highly significant. In addition many neurons both in the cortex and hippocampus of the treated animals were abnormal. Hence, repeated short term insults to the neuroepithelial zone resulted in microcephaly and the presence of abnormal neurons. (Supported by NIH Grant NB-06188 and by Grant R-200-66 from the United Cerebral Palsy Foundation.)

McDONALD, T. F. and Keith BROWN, Department of Anatomy, Medical College of Georgia, Augusta, Georgia. *Ultrastructural localization of certain cations in the human placenta fixed in osmium textroxide pyroantimonate.*

Pieces of human placenta nine to ten weeks of gestational age were fixed in an osmium tetroxide solution containing potassium pyroantimonate and were processed for electron microscopy. The fixation was according to the technique of Komnick (Z. Zellforsch. Mikroskop. Anat. 60:163) in which it is presumed that sodium and several other cations in the tissue are precipitated with the pyroantimonate and thus can be localized at the ultrastructural level when the tissue is viewed with electron microscopy.

Examination of the chorionic villi showed dense precipitations in the pinocytotic vesicles at the surface of the syntrophoblast and throughtout the cytoplasm of the syntrophoblast. The precipitate was found in the nucleoli of nuclei in both the syn- and cytotrophoblast, but was not present in the cytoplasm of the cytotrophoblast. Dense deposits normally found in the basement membrane of the epithelium seemed to be heavily "stained" with the pyroanti-

PUBLISHED TO REPLACE A PREVIOUS ADVERTISEMENT WHICH THE FOOD AND DRUG ADMINISTRATION CONSIDERED MISLEADING

The Food and Drug Administration has requested that we bring to your attention a recent promotional campaign for Garamycin Injectable (gentamicin sulfate) which featured a nationwide *in-vitro* hospital survey involving a comparison of sensitivity patterns of Garamycin Injectable and seven other antibiotics.

The FDA considers the advertising misleading in several respects such as:

The *in-vitro* chart contained in the ads, which compared Garamycin Injectable with seven other antibiotics, implied that Garamycin Injectable is clinically more effective than the seven other compared antibiotics. THE FACTS ARE (1) THAT DIRECT EXTRAPOLATION OF NONCLINICAL FINDINGS TO CLINICAL EFFECTIVENESS IS UNWARRANTED, AND (2) THAT THE ADVERTISED *IN-VITRO* COMPARISONS DO NOT CONSTITUTE A VALID BASIS FOR SUGGESTING THAT GARAMYCIN INJECTABLE HAS GREATER CLINICAL EFFECTIVENESS THAN THE COMPARED ANTIBIOTICS.

The *in-vitro* chart and information contained under the ad heading, "Indications" presented *in-vitro* data results in such a way as to imply that the drug is indicated for Gram-positive bacteria, such as *Staphylococcus aureus.* GARAMYCIN INJECTABLE IS NOT APPROVED FOR INFECTIONS DUE TO ANY GRAM-POSITIVE ORGANISMS.

We emphasize that Garamycin Injectable is approved for use only in infections due to susceptible strains of gram-negative bacteria, including Pseudomonas aeruginosa, and species of indole-positive and indole-negative Proteus, Escherichia coli, and Klebsiella-Aerobacter.

Injectable Garamycin® gentamicin sulfate injection

Schering

Each cc. contains gentamicin sulfate equivalent to 40 mg. gentamicin

BRIEF SUMMARY

INDICATIONS GARAMYCIN Injectable is clinically effective in infections due to susceptible strains of gram-negative bacteria, including Pseudomonas aeruginosa, and species of indole-positive and indole-negative Proteus, Escherichia coli, and Klebsiella-Aerobacter. Bacteriologic studies should be conducted to identify the causative organism and to determine its sensitivity to gentamicin sulfate. Sensitivity discs of the drug are available for this purpose. If the susceptibility tests indicate that the causative organism is resistant to gentamicin sulfate, other appropriate antibiotic therapy should be instituted.

This drug should be limited to the treatment of serious infections caused by gram-negative bacteria, particularly Pseudomonas aeruginosa, Proteus and other susceptible organisms, with due regard for relative antibiotic toxicity. Therefore, the drug should be considered for use against gram-negative: 1. Bacteremia; 2. Infected surgical wounds; 3. Severe soft tissue infections, including burns complicated by sepsis; 4. Respiratory tract infections; and 5. Selected cases of urinary tract infection.

CONTRAINDICATIONS GARAMYCIN Injectable is contraindicated in individuals with a history of hypersensitivity or toxic reactions to gentamicin.

WARNINGS Patients receiving treatment with GARAMYCIN should be under close clinical observation because of the toxicity associated with the use of this drug. Ototoxicity, vestibular and auditory, can occur in patients, primarily those with pre-existing renal damage, treated with GARAMYCIN Injectable, usually for longer periods or with higher doses than recommended.

GARAMYCIN Injectable is potentially nephrotoxic, and this should be kept in mind when it is used in patients with pre-existing renal impairment. Kidney function diminished by infection of the upper urinary tract may, however, improve during effective treatment with GARAMYCIN Injectable.

Concurrent administration of potentially ototoxic drugs such as streptomycin and kanamycin or of potentially nephrotoxic drugs such as polymyxin, colistin, and kanamycin with gentamicin sulfate has not been shown to afford any clinical advantages and, moreover may result in additive toxicity. Monitoring of vestibular, cochlear, and renal function will provide guidance for therapy in such cases.

PRECAUTIONS In patients with impaired renal function in whom serious infection develops, serum concentrations of the drug may rise, with consequently increased risk of ototoxicity. In these patients or in those in whom recommended dosage or duration of therapy must be exceeded as a life-saving measure, routine studies of kidney function should be performed when possible. These may be supplemented by evaluation of the vestibular and auditory function and measurement of serum concentration of the drug when feasible. Serum concentration of gentamicin should be maintained below the range of 10-12 mcg./ml. to reduce risk of ototoxicity.

Ordinarily, treatment should not be given for more than 7 to 10 days or be repeated unless required for serious infection not responsive to other agents.

As with other antibiotics, treatment with GARAMYCIN Injectable may occasionally result in overgrowth of nonsensitive organisms. If superinfection occurs, appropriate therapy is indicated.

Safety for use in pregnancy or the potential for fetal ototoxicity or nephrotoxicity have not been established. Studies in pregnant animals have not revealed teratogenic or ototoxic effects in the fetus. GARAMYCIN Injectable should not be used in pregnant patients or in women of childbearing age unless its use is deemed advisable by the physician.

ADVERSE REACTIONS The overall incidence of ototoxicity considered related to treatment with GARAMYCIN Injectable was 2.8 per cent (16 of 565 patients). Contributory factors (two or more factors were relevant to most patients) were as follows: 10 had azotemia, 10 received a total of 1 gram or more of the drug, 7 had recently received other potentially ototoxic antibiotics (streptomycin or kanamycin), and 5 were over 60 years of age. Six also had decreased high-tone hearing acuity, which returned to or toward normal in the 4 patients retested.

Analysis of BUN data indicated that 4 (2%) of 172 patients showed increases in BUN that were probably related to treatment with GARAMYCIN Injectable. Of 20 increases probably or possibly related to treatment, 7 were reversible, 9 occurred in terminal patients, and 4 had no follow-up.

Other adverse reactions associated with treatment were one instance each of urticaria, decreased hematocrit, and reversible depression of granulocytes with normal bone marrow. Other rarely reported and possibly treatment-related adverse reactions were anemia, increased reticulocyte count, rash, purpura, drug fever, hypotension, convulsions, twitching, salivation, nausea, vomiting, increased transaminase activity (SGOT or SGPT), increased serum bilirubin, decreased serum calcium, and joint pain.

PACKAGING GARAMYCIN Injectable, 40 mg./cc., 2-cc. multiple-dose vials, for intramuscular administration.

SCHERING CORPORATION, UNION, NEW JERSEY 07083

monate. Hofbauer cells in the core of the villi contained an abundance of the precipitate in cytoplasm immediately inside the surface membrane. The precipitate was also found in more moderate amounts in the endothelium of villus capillaries and in mitochondria of a number of the cells. The significance of the localization of certain cations with this method will be discussed. (Supported by NIH grant HD-01922)

MAHAN, P. E., and K. V. ANDERSON. School of Dentistry and Anatomy Department, Emory University. Atlanta, Georgia. *Jaw depression elicited by peridontal ligament and tooth pulp stimulation in the cat.*

The authors have recently shown that stimulation of tooth pulp (TP) nerves in both the anesthetized and alert cat elicits a vigorous jaw depression (JD) reflex. Summation of the sensory input from the two upper canine teeth was demonstrated in the anesthetized animals. The present study was designed to test whether or not the sensory input from the periodontal ligament (PL) and the TP would summate to produce JD. Bipolar stimulating electrodes were implanted in the predentin of upper canine teeth in 18 cats. In 6 of these bipolar electrodes were implanted in the middle third of the PL of the upper canine teeth. The average threshold for JD upon stimulation of the TP (unidirectional rectangular wave, 100 msec duration, 1 cps) was 4.5 volts (range 3.0 to 7.5). The average threshold for JD upon stimulation of the PL was 3.7 volts (range 3.0 to 4.2). Simultaneous activation of PL receptors of both canine teeth produced a more vigorous JD response than activation of either PL alone. It was found that JD follows simultaneous, subthreshold stimulation of both PL just as shown earlier with TP stimulation. It was further revealed that simultaneous, subthreshold stimulation of a TP and PL (both ipsilaterally and contralaterally) was followed by the JD response. (Supported by grants MH16077, a Research Scientist Development Award awarded to Dr. Anderson and General Research Support Grant 5-S01-RR05308-09.)

MARKWALD, Roger R., Department of Anatomy, Medical University of South Carolina, Charleston, South Carolina. *Myofibrillogenesis in hamster and rat cardiac muscle.*

Myofibrillogenesis was examined ultrastructurally in ventricular myocytes from initiation of the heartbeat until one day post term. The pattern of development was nearly identical in both species. Both free thin (60-80A) and thick (160-180A) filaments were observed predominantly in subsarcolemmal regions. Orientation of free myofilaments proceeded only in association with dense, amorphous material located as plaques along the sarcolema (frequently in association with desmosomes) or as isolated sarcoplasmic condensations. This material was removed by chemical extractants (3M urea, 0.2M sodium borate, 5mM tris buffer, pH 8.3) designed to remove Z lines. Myofilaments eventually inserted into the sarcoplasmic condensations and surface plaques forming half-sarcomeres. In the latter case insertion was either perpendicular to the sarcolemma or, more commonly, parallel to the sarcolemma. Interconnection of the half-sarcomeres was the apparent mechanism whereby primitive, branched myofibrillar bundles characterized by expanded Z lines and loosely aggregated myofilaments were formed. Z lines narrowed during subsequent differentiation. Concomitantly, myofilaments were brought into closer contact resulting in the appearance of A-I bands in uncontracted bundles. H bands and M lines were not observed until organogenesis was nearly complete. Intercalated disks developed wherever myofilaments inserted perpendicular to sarcolemmal plaques; the lateral connection of myofilaments at Z line levels to the sarcolemmal plaques were retained throughout gestation and in most postnatal specimens. All phases of myofibrillogenesis were noted in every developmental stage, but myofibrils of trabecular cells were consistently further developed than those of peripheral myocytes at any given stage.

MARTIN, B. J., Department of Pathology, Medical University of South Carolina, Charleston, South Carolina. *The use of special procedures to preserve and visualize carbohydrates in tissue prepared for electron microscopy.*

Conventional aldehyde-osmium procedures provide what is generally accepted as the best fixation of most tissues for observation with the electron microscope. However, some important and interesting substances (e.g., certain carbohydrate containing compounds) are relatively unreactive with either aldehydes or osmium and consequently may be lost in conventional tissue processing. In the present study two procedures specially designed to preserve carbohydrate materials are used to prepare the salt glands of mallard ducks (*Anas platyrhynchos*) for observation with the electron microscope.

Tris-(1-aziridinyl) phosphine oxide, an extrmely carbohydrate reactive alkylating agent, was added to the conventional aldehyde-osmium procedure. The general morphological quality of the tissue is excellent. Matrix regions of mitochondria have an increased electron density and filamentous structures, characteristic of the secretory cells, are much more prominent. Numerous structures with the morphology of mucous droplets, never observed with conventional fixation, are seen in the superficial regions of the main duct cells.

Salt gland tissue was also prepared by "inert dehydration" (Pease, 1966, J. Ultrastruct. Re. *14*, 356), a procedure that theoretically circumvents the extraction problems of chemical fixation and conventional dehydration. The extracellular spaces of the tissue stain intensely with phosphotungstic acid at low pH. This result suggests that, *in vivo*, these spaces likely contain materials extracted when tissues are prepared by conventional methods.

The possible roles of acidic carbohydrate materials

in electrolyte transporting tissues will be discussed. (Supported by U.S.P.H.S. Grants AM-13705 and 5-T1-GM-884.)

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MARTIN, G. F., D. MEGIRIAN and A. ROEBUCK, Department of Anatomy, The Ohio State University, Columbus, Ohio, Department of Physiology, The University of Tasmania, Hobart, Australia, and Department of Biology, Queensland Institute of Technology, Capricornia, Rockhampton, Australia. *Corticobulbar fibers in the marsupial phalanger, (Trichosurus vulpecula).*

Twenty-seven adult phalangers were employed to investigate the pattern of neocortical projections to the pons and medulla oblongata. Lesions restricted to neocortical areas rostral to the orbital sulcus resulted in fiber degeneration which distributed mainly to midline and medial areas of the pontine and medullary reticular formation. The greatest amount of fiber degeneration was located within the superior central nucleus, the nucleus of the pontine raphe, the nucleus pontis centralis oralis and the nucleus pontis centralis caudalis. However, a few degenerating fibers were present within the nucleus gigantocellularis and the magnocellular portion of the medullary raphe. In contrast, lesions located just caudal to the orbital sulcus (limb area of the cortex) resulted in fiber degeneration chiefly within the more lateral parvocellular reticular formation and within the subnucleus dorsalis of the nucleus medullae oblongatae centralis. Additional degenerating fibers were present within the dorsal column nuclei and within more medial areas of the reticular formation. Ventral parietal ablations (face area of cortex) produced fiber degeneration within the chief sensory and spinal nuclei of the trigeminal complex and the closely adjacent reticular formation. All of the above neocortical lesions resulted in fiber degeneration within the basilar pontine gray. In those specimens subjected to caudal (striate and peristriate) or ventrocaudal (temporal) lesions, degenerating fibers were present within the basilar pontine gray, but not within other areas of the pons or medulla oblongata. (Supported by NIH grant NS-07410-03, 04.)

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MELOAN, Susan N., Holde PUCHTLER and Linda S. VALENTINE, Department of Pathology, Medical College of Georgia, Augusta, Georgia. *An investigation into the relations between structures of acid dyes and affinity for calcium deposits.*

Previous studies of acid dyes for lakes indicated that selectivity for calcium deposits cannot be explained solely by interaction between sulfonic acid groups of dyes and calcium cations. To determine the effects of dye configuration on the selectivity for calcium, we compared groups of dyes which differed only in the nature or position of substituents. Carnoy- and methacarn-fixed sections were stained in 2% aqueous dye solutions buffered to pH 9. Models of dye molecules were built to visualize conformational effects of substituents.

In dibenzene-monoazo dyes the substituent para to the sulfonic acid group exerted a drastic effect. For example, Orange III (sulfanilic acid—N,N-dimethyl-aniline) stained calcium intensely and selectively; Orange IV (sulfanilic acid—diphenylamine) colored all tissue structures. In other monoazo dyes the position of the-OH group affected the staining pattern; e.g., Orange II (sulfanilic acid—2-naphthol) was selective for calcium, but Orange I (sulfanilic acid—1-naphthol) was not specific. In monoazo dyes consisting of two naphthyl rings, coplanarity was critical. For example, the coplanar Wool Red 40F (naphthionic acid—2-naphthol-3, 6-disulfonic acid) stained calcium intensely. Transfer of the 3-sulfonic acid group to the 8-position, as in Brilliant Scarlet 3R, prevented coplanarity and calcium was only faintly colored. The selectivity of anthraquinone dyes for calcium was also determined by the type and position of substituents.

The inductive and mesomeric effects of substituents vary with the position, and coupling of electronic resonatars presupposes coplanar ring systems. Our observations indicate that selectivity of acid dyes for calcium is determined by these forces. (Supported by United States Public Health Service Grants #HE 12147 and FR 5365.)

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MILLER, J. A., Jr. and F. S. MILLER, Department of Anatomy, Tulane University, New Orleans, Louisiana. *Hypoxia-hypercapnia and hypothermia in asphyxiated newborn puppies — A Kodachrome film.*

Cold neonates of eight species survive total anoxia longer than do their warm littermates. Asphyxiated puppies gasp longest at body temperatures of 15°C. When cooling is accompanied by hypoxia and hypercapnia (H-H) gasping time is further increased, i.e., at 15° by 14%, at 10° by 34% and at 5° by 56%. Puppies cooled with hypoxia-hypercapnia will recover *spontaneously* and with no evidence of brain damage from periods of total anoxia which are lethal to littermates cooled in air. The film illustrates comparison of cooling methods, monitoring of EKG, removal of animals from gas and recovery of the H-H animal including righting and sucking reflexes. Vasodilatation produced by the hypercapnia is evidenced by pink appendages. Decapitated heads of H-H animals gasp longer and contain more blood than do heads of animals cooled in ice-water breathing air. The increased blood supply to the respiratory center may be a factor in the longer survival and better recovery of animals cooled by this method. (Supported in part by NIH grants HD-00228-04 and 5 T1-00793.)

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MOORE, P. J., Department of Anatomy, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, North Carolina. *Morphology of the rat uterus after prolonged exposure to a foreign device.*

The experiment was designed to study the long term effect of an intrauterine foreign device (IUFD) on the morphology of the rat uterus. An IUFD (0.5 cm of 3-0 braided silk suture) was placed in the

lumen of one horn of the uterus of 14 young adult rats and the animals were killed 11-14 months later. In the control horn the morphology of the luminal epithelium appeared normal in 12 rats. Vacuoles were present in the epithelial cells of two animals. Leukocytic infiltration occurred in both horns but it was more extensive in the horn containing the foreign device. All 14 animals had some degree of stratified squamous metaplasia in the horns with the foreign device. Seven rats developed invasive squamous cell carcinoma at the site of the IUFD. It is possible that the horn containing the foreign device is more sensitive to estrogen which may be responsible for the changes observed; squamous metaplasia is known to occur in the rat uterus following estrogen stimulation. The morphological alterations in the rat uterus bearing the IUFD are more extensive than seen in the human and subhuman primates. (Supported by American Cancer Society, P-465.)

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O'STEEN, W. K. and K. V. ANDERSON, Department of Anatomy, Emory University, Atlanta, Georgia. *Retinal degeneration and photically induced responses in the visual system of rats exposed to continuous light.*

Retinal receptor cells are damaged and gradually disintegrate after exposure of albino rats to continuous, low intensity, fluorescent light. Following destruction of the receptor outer segments, phagocytes invade the retina and remove cellular debris. By 14 days exposure, most receptor cells are destroyed, especially in the posterior retina. After 30 days exposure, normal receptors are completely absent throughout the retina. Retinal defects at this time appear to be localized in the receptor cell and outer nuclear layers.

The functional state of retinas lacking normal receptor cells was investigated by sterotatically implanting electrodes into the optic tract (OT), lateral geniculate nucleus (LGN), and visual cortex. The retina was stimulated by phototron flashes (1/sec.), and recordings were attempted from the anatomic loci mentioned above. In addition, evoked potentials were recorded from the visual cortex following stimulation of the OT and LGN. After four days of exposure to continuous light, abnormal retinal responses of low amplitude and long latency occurred. By 14 days, no responses to photic stimulation could be evoked in the OT, LGN, or visual cortex. Similarly, at 30 days, responses were absent in two of three animals. The third rat had long latency responses of low amplitude in the optic tract and visual cortex, even though receptor cells appeared to be absent from the retina. Electrically induced responses in the LGN and visual cortex were comparable to those of control rats kept in cyclic light. The interpretation of of neuroendocrine and other experimental results related to photoperiod will be discussed. (Supported by Grant Nos. HD04120, U.S.P.H.S., and M68:164, The Population Council; Research Development Award to K.V.A., No. MH-16007.)

PAPKA, R. E., Department of Anatomy, Tulane University, School of Medicine, New Orleans, Louisiana. *An ultrastructural study of developing sympathetic ganglia of the monkey.*

Ganglia of the thoracic sympathetic chain were obtained from rhesus monkey fetuses of 49, 69 and 87 days gestation (term is 165 days) and prepared for electron microscopy. The ganglia of all the fetuses contained neuroblasts ranging from small primitive cells to larger more mature cells with eccentric nuclei. In ganglia of the youngest animals the more immature neuroblasts were most numerous, whereas in the older fetuses the more mature neuroblasts predominated. The primitive neuroblasts contained variable numbers of free ribosomes, no recognizable rough endoplasmic reticulum, and few other organelles. Neuroblasts in intermediate stages of development contained many free ribosomes, a few cisternae of rough endoplasmic reticulum, and a few other organelles. The most mature neuroblasts possessed peripheral accumulations of rough endoplasmic reticulum, and a central zone which contained mitochondria, Golgi complex, etc. Satellite cells were found among the neuroblasts and in the older ganglia especially, satellite cell processes were often seen surrounding the neuroblasts. In all ganglia studied Schwann cells and their processes were encountered among neuronal processes. A third type of cell was encountered in the developing ganglia. The nuclei of these cells were elongate, and many showed submembrane clumping of chromatin. They contained numerous electron-opaque granules, similar in appearance to those seen in the adrenal medulla and in developing chromaffin cells. (Supported by NIH Grant 5T1 GM 793 and U.S.P.H.S. Grant No. 5 R01 N 508928.)

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PENNINGTON, G. P., Department of Anatomy, University of Mississippi, School of Medicine, Jackson, Mississippi. *Responses of cytoplasmic glycogen of normal and fatty livers of mice to epinephrine and to cortisone.*

Glycogen was demonstrated in paraffin sections of mouse livers by use of the PAS method, with and without diastase hydrolysis. Administration of a single intraperitoneal dose of epinephrine mobilized glycogen of normal livers within 30 minutes after injection. This response continued for three hours, at which time all cytoplasmic glycogen was clearly depleted. Eight hours later cytoplasmic glycogen was not depleted within normal heaptic parenchymal cells.

The large amount of intracytoplasmic fat in hepatic parenchymal cells of mice fed a high-fat, low-protein, choline-deficient diet, did not alter the action of epinephrine on the cytoplasmic glycogen of hepatocytes. Three hours after injection of epinephrine, depletion of this glycogen was also complete in fat-filled parenchyma. In mice fed a high-fat, low-protein, choline-deficient diet for four weeks, daily doses of cortisone during the last six days (before death) increased glycogen in the fatty parenchyma of peripheral lobular zones of livers. In the same livers no

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for the treatment of solar/actinic keratoses... a topical alternative to conventional therapy

Fluorouracil—the Roche contribution

In 1962, Roche Laboratories introduced Fluorouracil Roche® (5-fluorouracil). Early clinical work with this drug suggested that it possessed a selective cytotoxic activity when applied topically to certain kinds of lesions. Based on this work and years of clinical trials, a standardized form of topical fluorouracil can now be recommended for treatment of multiple solar or actinic keratoses.

Efudex®(fluorouracil)—a new alternative to conventional therapy

Efudex presents the physician with a topical alternative to surgery in the treatment of solar or actinic keratoses. It is effective, comparatively inexpensive and especially well-suited for treatment of multiple lesions. Important, too, is the highly desirable cosmetic result. Clinical experience demonstrates that treatment with Efudex results in an extremely low incidence of scarring.*

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1/22/68—Treatment with 5% 5-FU cream commences. Patient K.L. showing widespread but mild solar keratoses (also known as actinic keratoses).



/2/68—After 11 days of treatment. rythema is seen at site of keratoses. In ddition, numerous lesions not apparent rior to therapy have become manifest y sharply defined reactions. Intervening :in, also treated, shows no response to ıerapy.

'19/69—One year after cessation of ıerapy. Skin appears clear with no evi-ɔnce of scarring. Examination reveals ck of recurrence or the formation of ɔw lesions.



Predictable sequence of therapeutic response

Two to four weeks constitutes a typical course of Efudex therapy. The response is usually characteristic and predictable. After three or four days of treatment, erythema begins to appear in the area of the keratoses. This is followed by an intense inflammatory response, scaling and occasionally moderate tenderness or pain. The height of the inflammatory reaction generally occurs two weeks after the start of therapy, and then begins to subside as treatment is stopped. Within two weeks of discontinuing medication, the inflammation is usually gone. A mild erythema may remain for two to three months before gradually receding.

Selective—with a high degree of safety

Despite the temporary unsightliness and discomfort of the inflammatory episode, Efudex is, in general, more readily tolerated than surgery. Clinical work shows the intense inflammatory response to be limited to the area of the lesion. Normal skin is not similarly affected. Another measure of Efudex safety: systemic absorption of topical fluorouracil was insignificant, indicating a low risk of systemic toxicity.*

Two strengths—two convenient dosage forms

Efudex is available as a 2% or 5% solution or as a 5% cream. It is applied twice daily by the patient with a nonmetal applicator or suitable glove.

Before prescribing Efudex, however, there are two important considerations. First, please consult the complete prescribing information for precautions, warnings and adverse reactions. Second, advise the patient that treated lesions should respond with the characteristic but transient inflammation. A positive sign that Efudex is working for them.

*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.

2% and 5% Solutions; 5% Cream Applied twice daily—resolves solar or actinic keratoses.

new Efudex® (fluorouracil) cream/solution



For full prescribing information, please see the following page.

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Efudex®

(fluorouracil) cream/solution the new standardized topical for solar/actinic keratoses

Description: Efudex solutions and cream are topical preparations containing the fluorinated pyrimidine 5-fluorouracil, an antineoplastic antimetabolite.

Efudex Solution consists of 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris-(hydroxymethyl) aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Efudex Cream contains 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

Actions: There is evidence that the metabolism of fluorouracil in the anabolic pathway blocks the methylation reaction of deoxyuridylic acid to thymidylic acid. In this fashion fluorouracil interferes with the synthesis of deoxyribonucleic acid (DNA) and to a lesser extent inhibits the formation of ribonucleic acid (RNA). Since DNA and RNA are essential for cell division and growth, the effect of fluorouracil may be to create a thymine deficiency which provokes unbalanced growth and death of the cell. The effects of DNA and RNA deprivation are most marked on those cells which grow more rapidly and which take up fluorouracil at a more rapid pace. The catabolic metabolism of fluorouracil results in degradative products (*e.g.*, CO_2, urea, α-fluoro-β-alanine) which are inactive.

Studies in man with topical application of ^{14}C-labeled Efudex demonstrated insignificant absorption as measured by ^{14}C content of plasma, urine and respiratory CO_2.

Indications: Efudex is recommended for the topical treatment of multiple actinic or solar keratoses.

Contraindications: Efudex is contraindicated in patients with known hypersensitivity to any of its components.

Warnings: If an occlusive dressing is used, there may be an increase in the incidence of inflammatory reactions in the adjacent normal skin.

Prolonged exposure to ultraviolet rays should be avoided while under treatment with Efudex because the intensity of the reaction may be increased.

Usage in Pregnancy: Safety for use in pregnancy has not been established.

Precautions: If Efudex is applied with the fingers, the hands should be washed immediately afterward. Efudex should be applied with care near the eyes, nose and mouth. To rule out the presence of a frank neoplasm, a biopsy should be made of those areas failing to respond to treatment or recurring after treatment.

Adverse Reactions: The most frequently encountered local reactions were pain, pruritus, hyperpigmentation and burning at the site of application. Other local reactions included dermatitis, scarring, soreness and tenderness.

Also reported were insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity and lacrimation.

Laboratory abnormalities reported were leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Efudex should be applied twice daily with a nonmetal applicator or suitable glove in an amount of the solution or cream sufficient to cover the lesion. When Efudex is applied to a lesion, a response occurs with the following sequence: erythema, usually followed by vesiculation, erosion, ulceration, necrosis and epithelization. The lower frequency and intensity of activity in adjacent normal skin indicate a selective cytotoxic property. Medication should be continued until the inflammatory reaction reaches the erosion, necrosis and ulceration stage, at which time use of the drug should be terminated. The usual duration of therapy is from 2 to 4 weeks. Complete healing of the lesion may not be evident for 1 to 2 months following cessation of Efudex therapy.

How Supplied: Efudex Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Efudex Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

Clinical Studies: The effectiveness of the three preparations as determined by complete involution of solar keratoses was: 2% Solution, 77% of 282 lesions; 5% Solution, 88% of 202 lesions; and 5% Cream, 85% of 189 lesions. In those lesions where complete involution followed treatment, the rate of possible recurrences observed clinically at periods up to 12 months or more was: 2% Solution, 4.6% of 218 lesions; 5% Solution, 1.7% of 177 lesions; and 5% Cream, 5.6% of 160 lesions. Because of the toxic potential of fluorouracil, some physicians preferred to use the 2% solution when large areas were to be treated. Approximately 30% of the lesions required treatment for two weeks or less; approximately 78% required four weeks or less for adequate treatment.

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increase of glycogen was demonstrated in the extremely fatty and enlarged parenchymal cells in the central and middle zones. (Supported by N.I.H. Predoctoral Training Grant GM 5T01 00287-10.)

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PUCHTLER, Holde, Faye Sweat WALDROP, Susan N. MELOAN and Linda S. VALENTINE, Department of Pathology, Medical College of Georgia, Augusta, Georgia. *An investigation into the relations between dye structure and affinity for myosin.*

Previous studies indicated that selectivity of dyes for myosin is determined by the configuration of dye molecules. Because customary drawings of dye formulas do not provide information concerning atomic radii, bond lengths and angles, we built models of dye molecules and correlated the three-dimensional configurations of 380 sulfonated dyes with their staining patterns under the conditions of the tannic acid-phosphomolybdic acid-Levanol fast cyanine 5RN procedure.

Milling azo dyes with long linear molecules containing three or more conjugated coplanar ring systems stained muscle fibers intensely and selectively. Non-linear azo dyes of comparable size and composition with an insulating group at the center showed little or no affinity for myosin. Partly linear azo dyes with insulated terminal ring systems were less selective than linear milling dyes. With few exceptions linear direct dyes were non-selective and stained most tissue structures. Low molecular azo dyes had little affinity for muscle fibers and selectivity was determined by the naphthalene derivatives. The affinity and selectivity of anthraquinone, azine and triphenylmethane dyes were determined by the nature and position of substituents, i.e., their effects on the electronic resonance systems and the rotation of rings.

These data show that the affinity of muscle fibers for various dyes cannot be explained by salt-type linkages between myosin and sulfonic acid groups of dyes, but must be ascribed to other bonding mechanisms, e.g., hydrogen bonds, Van der Waals and dispersion forces, as described for the binding of sulfonated dyes by wool. (Supported by United States Public Health Service Grants HE 12147 and FR 5365.)

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SCARPATO, Robert A., Roger R. MARKWALD and William N. ADAMS SMITH, Department of Anatomy, Medical University of South Carolina, Charleston, South Carolina. *Ultrastructural observations of the developing rat endocardium.*

Cardiac development in the Wistar rat was studied ultrastructurally at daily stages ranging from 10½ through 14½ days of gestation. The cells of the endocardium during the early stages were scallop-shaped and contained abundant cytoplasm within which were extensive Golgi complexes and rough endoplasmic reticulum (RER). By the later stages, endocardial cells in developing trabecular regions had become thin and attenuated with a concomitant decrease in the amount of RER and Golgi complexes whereas those cells lining endocardial cushion tissue remained scallop-shaped and retained extensive RER and Golgi complexes. In addition, histochemical analysis revealed that the scallop-shaped cells of the early endocardium and of the lining of the endocardial cushion tissues in later stages stained positively for acid mucopolysaccharide.

The appearance of such secretion-associated organelles in the early endocardium, their retention in endocardial cushion tissue and their histochemical staining suggest a secretory function for the endocardium during cardiac morphogenesis in the rat. (Supported by American Heart Association Grant No. 70 987 and by NIH, GRS Grant No. RR 5420.)

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SCHUIT, K. E., Department of Anatomy, University of Virginia, Charlottesville, Virginia. *Changes in RNA, DNA and protein during aerobic regeneration of mitochondria in Saccharomyces cerevisiae.*

The source of genetic control exerted by the cell over the production and degradation of entire organelles is largely unknown. An understanding of the mechanisms controlling the generation of mitochondria in particular has been complicated because the formation and function of the mitochondria from many cell types are to some extent regulated from within the organelles themselves. Mitochondria contain the molecular apparatus necessary for the synthesis of nucleic acids and proteins. The macromolecular events, the origin of the necessary transcription and the types of RNA produced during the generation of mitochondria are the topics to be discussed.

In the yeast, *Saccharomyces cerevisiae*, mitochondria can be altered by simple changes in the environment. For example, cells grown anaerobically in the presence of 10% glucose do not appear to contain functional mitochondria. Conversely, resuspension of anaerobically grown yeast in an oxygenated medium results in the regeneration of mitochondrial structure and the re-establishment of enzymatic function.

Using this system, we have shown that during regeneration, under conditions prohibiting cellular division, the RNA content of yeast cells increases by 58%, the DNA by 40%, total protein by 20% and dry weight by 40%. The increased RNA content is not affected by agents inhibiting the synthesis of mitochondrial macromolecules, suggesting that the newly synthesized RNA is the result of a transcription of the nuclear genome. The relative amount of the ribosomal RNA in the cell changes little during this period, but an increase in the levels of low and intermediate weight RNA has been observed. (Supported by Dr. J. David Deck.)

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SIMSON, J. V., Department of Pathology, Medical University of South Carolina, Charleston, South Carolina. *Morphology of secretory granules in rat parotid and submandibular glands following isoproterenol administration.*

Administration of large doses of isoproterenol to

rats results in rapid depletion of preformed secretory granules from the parotid and submandibular glands. Secretory material is reconstituted several hours later, and the sequence of events in granulogenesis can be followed. At still later times, and especially after several injections, the morphology of the granules is considerably altered from that found in normal animals. In parotid acinar cells, the secretory granules become enlarged and contain material of decreased density, which becomes progressively more mucoid in appearance. In submandibular acinar cells, the granules also became enlarged, and often contain condensations of fibrillar material which may assume bizarre configurations. An effort is currently being made to analyze the composition of these granules by means of various E.M. histochemical procedures.

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SWANSON, Ernest A., Jr., Department of Anatomic Sciences, Temple University School of Dentistry, Philadelphia, Pennsylvania. *Hair follicles within the substance of the tongue.*

At least three separate, mature hair follicles containing hairs were found to be embedded within the intrinsic musculature of the anterior two thirds (the body) of a dog's tongue. An extensive review of the literature showed that hair follicles are found in some strange places, but previous mention of their presence in the tongue has not been reported.

Healthy and normal appearing bulbs and connective tissue papillae were found. No evidence of acute or chronic inflammation was seen around any of the follicular structures. In addition, there was no evidence of scar formation around the follicles which would have indicated a healed inflammatory process. There was, likewise, no evidence of scar formation in either the dorsal or ventral mucosa of the tongue. Representative sections showed conclusively that these hairs are endogenous and not the result of some type of foreign body accident.

No sebaceous glands were seen in connection with any of the follicles. Question arose as to the presence of one poorly constructed and ill-defined arrector pili muscle. One area of the dorsal surface of the tongue showed what appeared to be a hair shaft emerging, but true continuity with any of the underlying follicles could not be demonstrated.

Representative microphotographs will be presented and commented upon. A discussion of the embryologic development of these follicles will be presented and the significance of this observation will be discussed.

———

WALDROP, Faye Sweat, Holde PUCHTLER and Linda S. VALENTINE, Department of Pathology, Medical College of Georgia, Augusta, Georgia. *Light microscopic demonstration of myoid fibers in the nervous system.*

In 1968 Puszkin and coworkers isolated an actomyosin-like protein from brain. To determine whether or not this protein can be visualized by light microscopy, we applied the tannic acid-phosphomolybdic acid-Levanol fast cyanine 5RN technic for myosin and related proteins to methacarn-fixed paraffin sections of human central nervous tissue and peripheral nerve.

At the surface of the cerebral cortex, medulla oblongata and spinal cord, a layer of myoid fibers was found subadjacent to the pia. A meshwork of myoid fibers was distributed throughout the white matter and formed dense layers around blood vessels; myelin sheaths could not be identified. In the cerebral cortex a layer of spider-like cells with myoid fibrils was observed underneath the marginal layer; myoid fibers were scarce in the deeper layers of the cortex, but became more numerous again near the border of grey and white matter. Polarization microscopic studies showed that the myoid fibers are highly oriented at the molecular level. In peripheral nerves axons were surrounded by a network of myoid material.

Correlation of light microscopic observations with chemical electron microscopic and X-ray diffraction data indicated that the myoid fibers apparently correspond to bundles of filaments in fibrous astrocytes. The histochemical reactivity of the myoid material in peripheral nerve was identical with that of neurokeratin as described by C. W. M. Adams. Myelin sheaths in the CNS were extracted by the acidified methanol-chloroform fixatives as expected on the basis of chemical data. (Supported by United States Public Health Service Grants # HE 12147 and FR 5365.)

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WILSON, James W., Department of Pathology, Duke University Medical Center, Durham, North Carolina. *Revascularization of the femoral head in puppies following induced aseptic necrosis.*

The normal vascular anatomy of the capital femoral epiphysis in the puppy has been previously outlined (Bassett, et al., Jour. Bone and Joint Surg. 51:1139, 1969). Once the femoral head has been damaged by aseptic necrosis, the redevelopment of vascular channels to supply the deformed head is unknown. Ten dogs one-and-one-half to three months of age, were injected *in vivo* by the abdominal aorta, using a modified Spalteholz technique. These puppies had previously undergone partial destruction of one femoral head by the injection of sodium morruhate. The pattern of revascularization in these ten animals was carefully studied at various periods following hip necrosis. Histologic sections were done on these hips and serial reconstructions of hip vascular patterns were demonstrated. The majority of the arterial supply to the deformed head comes from the superior retinacular arteries. Some minor contributions were demonstrated from the inferior retinacular arteries. Contributions from other vessels were inconstant but the amount of revascularization was dependent upon the time the animal was sacrificed after some healing had taken place. The superior retinacular group of arteries provided the major supply to the deformed epiphysis, just as it did in the normal animal. Inferior and anterior retinacular arteries provided minor contributions. Recanalization of old vessels and the de-

velopment of new collateral pathways could be demonstrated. These vascular patterns are related to the deformed coxa plana produced by pressure variations after aseptic necrosis of the femoral head. (Supported by a grant from the United States Public Health Service 5-T1-GM726-9 and a grant from the Walker P. Inman Cardiovascular Research Fund at Duke University.)

HARDIN, J. H. and S. S. SPICER, Departments of Anatomy and Pathology, Medical University of South Carolina, Charleston, South Carolina. *Ultrastructural localization of dialyzed iron-reactive mucosubstance in rabbit heterophils, basophils, and eosinophils.*

For ultrastructural localization of acid mucosubstances in rabbit granulocytes, bone marrow and buffy coat specimens were fixed with formalin, glutaraldehyde, or osmium tetroxide, sectioned at 40 microns, and stained with Rinehart and Abul-Haj solution of dialyzed iron (DI). Heterophils revealed DI staining on the outer surface of the plasma membrane, in the Golgi complex involved in primary granulogenesis, and in primary granules. The intragranular distribution of DI-stained material varied at different stages in the maturation of primary granules. Immature granules of heterophils fixed by any of the three methods contained a peripheral concentric band of DI-positive material; however, fully mature primary granules possessed a core of DI-reactive material in heterophils fixed with osmium tetroxide but contained little or no staining in heterophils fixed with formalin or glutaraldehyde. Secondary granules of rabbit heterophils failed to stain with DI. Tertiary granules, observed only in late heterophils, contained distinct DI-positive particles. Basophil granules exhibited intensely DI-stained material distributed in an orderly pattern throughout the granule. In eosinophils, DI-staining was localized in the Golgi complex and in the rims of a few immature cytoplasmic granules. (Supported by Grants AM-10956 and AM-11028 from the National Institutes of Health.)

THREATT, J., NANDY, K. and FRIPZ, R., Department of Anatomy, Emory University, School of Medicine, Atlanta, Georgia. *Antibrain antibody in the serum of old mice.*

Antigen-antibody reaction was noted in only a few nerve cells in the brain of old mice by indirect immunofluorescence method. When the sections of brain of young and old mice were treated with sera from old mouse prior to incubation with fluorescein isothiocyanate labeled anti-mouse rabbit gamma-globulin, antigen-antibody reaction was noted in a large number of cells in both groups. No specific fluorescence was noted when sera from young mice were used. Sera from old mice were injected directly into one cerebral hemisphere in both young and old mice and specific fluorescent staining was noted in a large number of neurons around the area of injection. Damage to blood-brain barrier by mechanical injury to one cerebral hemisphere demonstrated similar reaction in old mice but not in the young. The present study has led to the following conclusions:

1) There is evidence that antibodies against brain-antigen are present in sera of old mice and not in young.
2) A barrier mechanism (possibly blood-brain barrier) separates the circulating antibodies from the brain-antigen and a damage to this barrier might lead to damage to a large number of cells in the brain.
3) These brain-distinctive antibodies have been found in the gamma-globulin fraction of the sera of old mice. (Supported by NIH Grant No. RO1-HD04188.)

POTEAT, William L., Department of Anatomy, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, North Carolina. *A correlated histochemical and biochemical study of the effect of clomiphene citrate and estradiol dipropionate on rat uterine glycogen accumulation.*

Uterine glycogen was studied by a modification of the anthrone procedure and by the periodic acid-Schiff technique after treatment of ovariectomized adult rats with clomiphene citrate, an estrogenic and antiestrogenic fertility drug, or estradiol dipropionate.

In the first experiment the rats were killed 24 hours after a single dose of clomiphene or 1.0 microgram estradiol, sc. Clomiphene doses ranged from 0.05 mg/kg and were given by gavage. Estradiol induced a higher glycogen concentration than any dose of clomiphene. Biochemically, the clomiphene-induced increase in glycogen concentration was dose dependent, peaked after a dose of 0.25 mg/kg, and was similar for higher doses. Histochemically, the myometrial glycogen response also peaked after 0.25 mg/kg, but the response of the luminal epithelium was not maximum until after a dose of 2.5 mg/kg. Glycogen was not observed in the luminal epithelium of estradiol-treated animals.

In the second experiment the rats were killed 24 hours after 14 consecutive daily doses of 2.5 mg/kg clomiphene or 1.0 microgram estradiol. Clomiphene was more effective than estradiol in reducing total body weight. Estradiol induced a small but non-significant increase in glycogen concentration over that of clomiphene. However, the estradiol-induced total glycogen and wet weight were more than double those of clomiphene. Histochemically, the myometrical glycogen response was similar after drug and hormone treatment. Many epithelial cells contained glycogen after clomiphene treatment, but the response was less than previously reported after multiple doses of the drug.

The data indicate that a generalization can not be drawn concerning clomiphene's estrogenic effectiveness; for depending on the parameter studied, clomiphene may be less, more, or as effective as estradiol itself. (Supported by USPHS Grant No. AM-08029.)

RINK, Richard D., Department of Anatomy, University of Louisville, School of Medicine, Louisville, Kentucky. *The effects of CO2 in oxygen on rats subjected to prolonged hypothermia (15°C).*

Prolonged hypothermia at deep or profound levels in laboratory animals is associated with a variety of untoward cardiovascular developments. The addition of CO2 to respiration mixtures of animals and humans during *short term* low level hypothermia has been shown to improve significantly their physiological status. Consequently, it was of interest to test the effects of increasing concentrations of CO2 in the respiratory mixtures of animals subjected to *prolonged* hypothermia.

Respiratory mixtures containing 0%, 5%, 10% or 15% CO2 in oxygen were administered to rats maintained at 15°C body temperature for 7.5 hours. Determinations included arterial PCO2, PO2, pH, and hematocrit. Those which could be rewarmed successfully were designated as survivors. The highest survival rate (80%) was recorded for those ventilated with 10% CO2 in oxygen. By contrast, the majority of rats ventilated with the 15% CO2 mixture died between the second and third hours at 15°C; all rats in the other groups survived at least the 7.5 hour period. Ventilation with 100% O2 caused visible neurologic deficits amongst surviving rats while none receiving CO2 in oxygen showed neurologic impairment. The other data recorded for each group showed that hematocrits rose and PO2 levels declined progressively, and appendages became cyanotic during the 15°C exposure. Even though the survival rate of rats receiving 10% CO2 in oxygen was appreciably higher than any other group it is believed, as a result of the other data, that the benefits of elevated CO2 in respiratory mixtures are limited and do little to minimize the deleterious effects which accompany prolonged hypothermia. (Supported by Public Health Service Grant HE12401-01.)

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The actions of the official Tincture and Extract of Belladonna result chiefly from their Atropine content . . . conclude Goodman and Gilman

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*"THAT THE IMPERFECTIONS IN THE INSURANCE POLICIE BEING SOLD TO THE PUBLIC TO PROTECT THE LATTEI AGAINST THE HAZARDS OF 'LIVING DEATH'- - SICKNESS OI LONG TERM DISABILITY- - -IS OF GRAVE IMPORT IS CLEARLY SHOWN BY THE NUMBER OF COMPLAINTS RECEIVED BY THE INSURANCE DEPARTMENT. THESE COMPLAINTS ARE SECOND IN NUMBER ONLY TO THOSE INVOLVING AUTOMOBILE LIABILITY INSURANCE AND THE GAP IS CLOSING RAPIDLY.". . . . . .*Sixty-Second Annual Report Department of Insurance of South Carolina.

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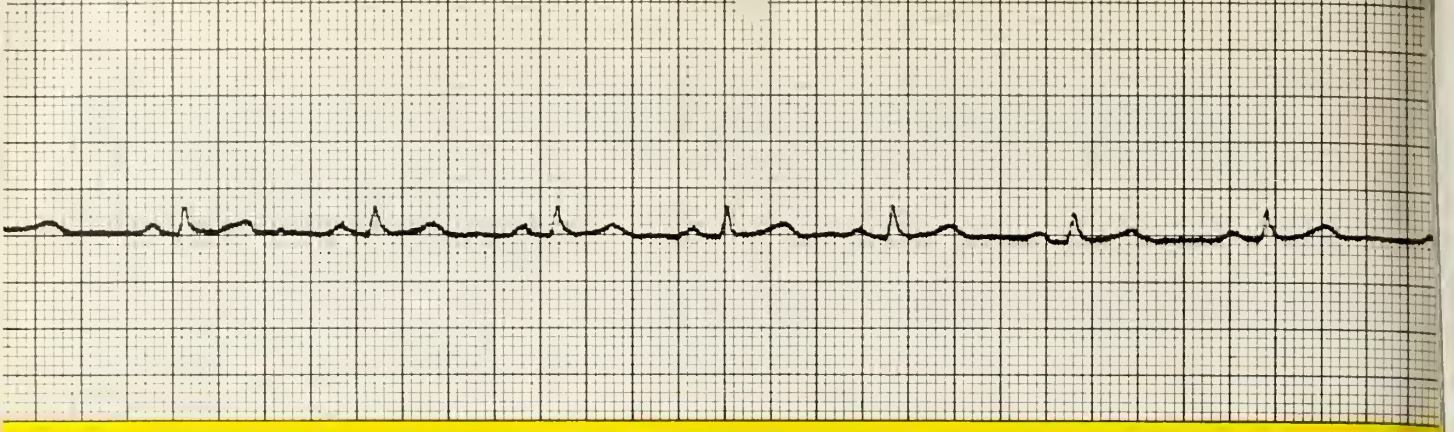
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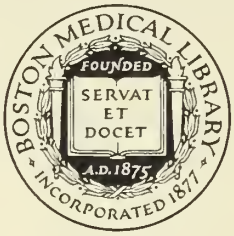
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